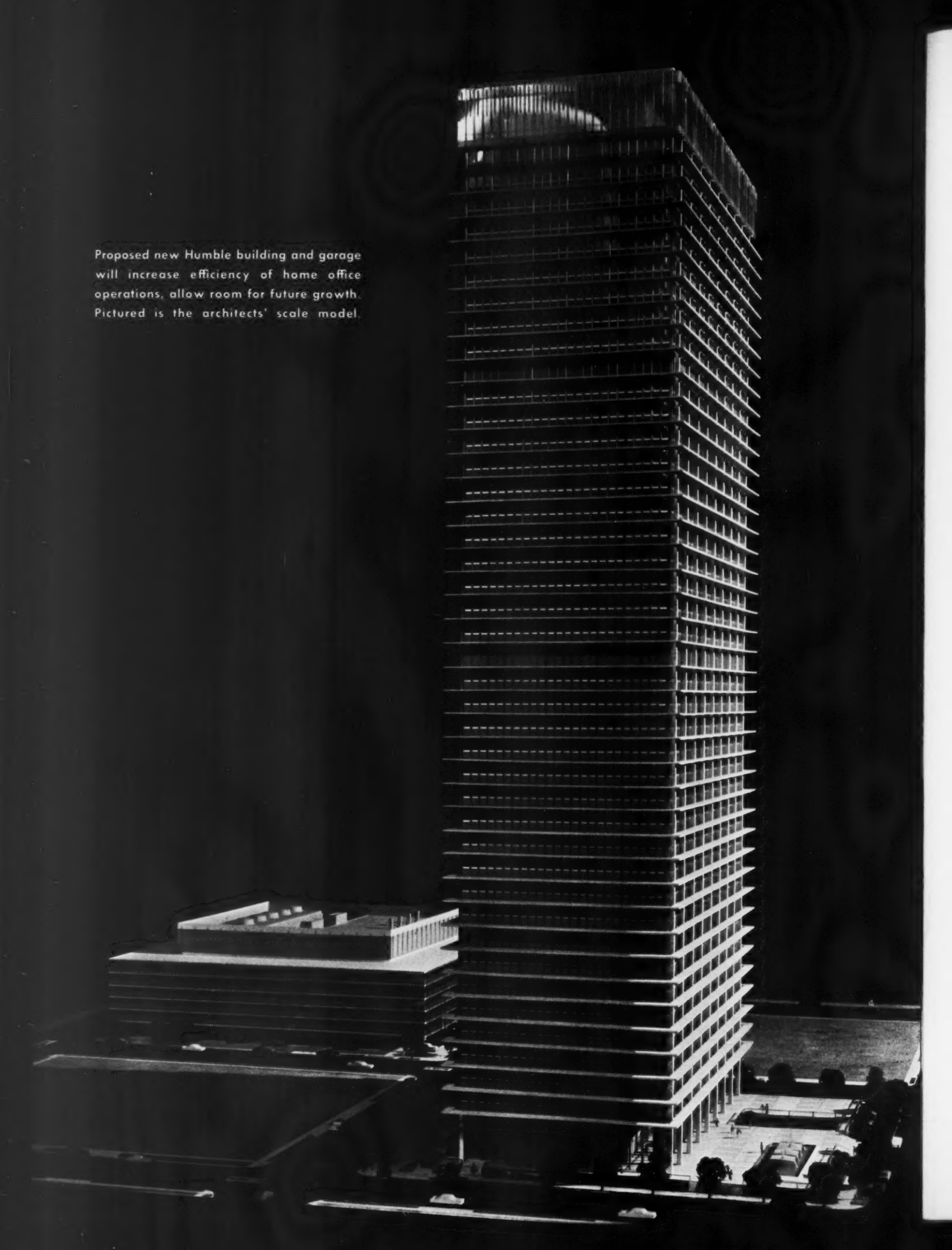
Home From School — *Bob Wygant*

The Humble Way

JULY-AUGUST, 1959



Proposed new Humble building and garage will increase efficiency of home office operations, allow room for future growth. Pictured is the architects' scale model.

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A More Efficient Home For Humble

Final plans are being prepared for 44-story building that will provide long-needed space for home office operations

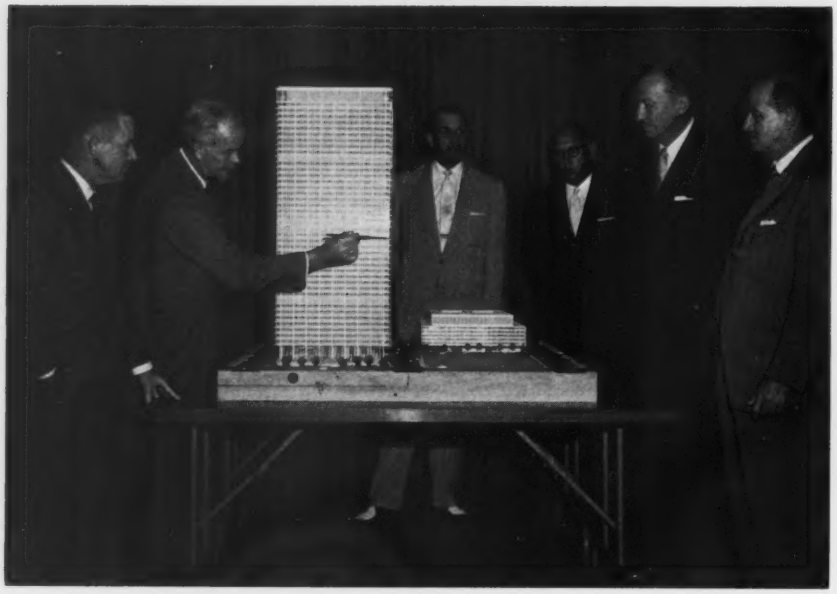
SOMETIME IN 1962, according to present plans, Humble will consolidate all of its home office operations under one roof in a new 44-story building resembling the architectural model pictured on the facing page.

The project is still in the planning stage, but basic designs have been approved for the proposed office building and adjoining garage, and President Morgan J. Davis announced on July 25 that the architects have been authorized to prepare complete detail drawings and specifications. At the same time, Mr. Davis said that plans are being worked out whereby the building will be owned by the Annuity Trust of the Humble Annuity and Thrift Plan,* and will be occupied by the Company under a lease agreement.

The decision to proceed with final plans was the culmination of long and careful studies in which Humble's management has sought a practical means of reducing the costs and improving the efficiency of the Company's home office operations.

The problem centered on the space limitations of the present Humble Building. For more than a dozen years this building has been inadequate to house all of the Company's home office employees, and, as a result, various groups of employees have had to carry on their work in rented office space in other buildings. Hundreds of these employees are now quartered in seven buildings scattered throughout Houston —some of them as far as four miles from the Humble Building. This dispersion of personnel has created prob-

*This Annuity Trust was created in 1956 to take care of annuities payable by Humble under the present plan that was placed in effect in 1957. The Trustees are responsible for investment of the funds received by this Trust for the purpose of providing annuities for participants in the plan. They have expressed an interest in investing part of the funds in this Trust in real estate, and have indicated that they consider investment in the proposed new office building to be leased by Humble an attractive investment.



Pointing out features of the building is architect Welton Becket. Others, left to right, are consulting architects George Pierce, Albert S. Golemon; Humble's Ray H. Horton, vice president; Morgan J. Davis, president; and C. E. Reistle, Jr., executive vice president.

lems of communication and transportation, has caused waste of time, and has necessitated some duplication of office services. In short, it has proved costly both in actual expense and impaired efficiency of operations.

In view of these facts, Humble's management initiated steps toward making it possible to consolidate all home office operations under one roof. In 1957, the Company purchased two block-size sites in downtown Houston and engaged architects to make preliminary plans for the most efficient use of the properties. Out of this effort, which involved many Humble employees as well as outside architects and engineers, there emerged a proposal for an attractive and highly efficient office building containing approximately one million square feet of usable space, and an adjoining block-size parking garage. The project, it was estimated, would cost approximately $32 million to build.

In their studies of the economic and functional aspects of the proposed new building, Humble's management took these facts into consideration:

1. The Trustees of Humble's Annuity Trusts are interested in high quality real estate as a part of their investment program.

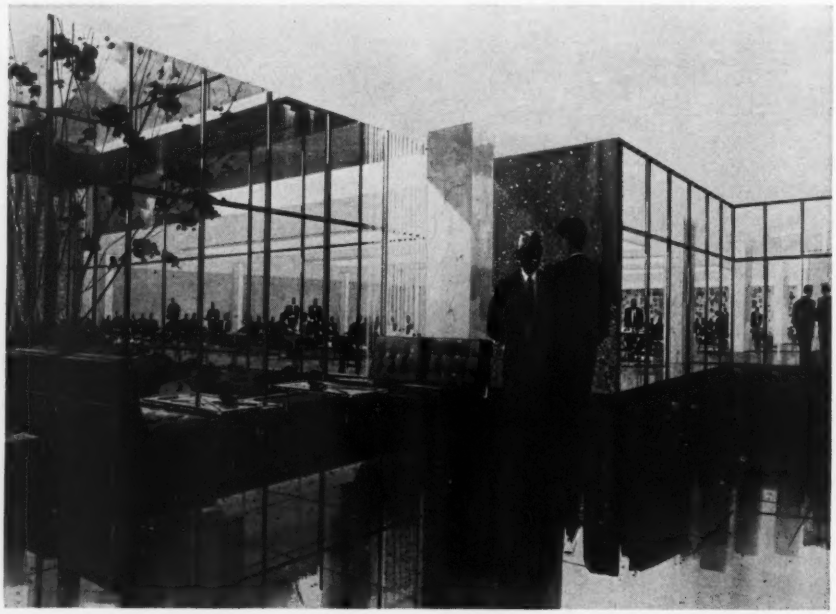
2. Ownership of the proposed new Humble Building would be an excellent source of investment income for any investor. This is evidenced by the fact that various insurance and investment groups have inquired about the possibility of being allowed to invest in the building for lease to Humble.

3. By occupying the proposed building under a lease arrangement, Humble could effectively reduce the costs and improve the efficiency of its home office operations without having to use its own capital funds to pay for construction costs. The Company would use a little more than half of the available space initially for its own offices, have ample space for expansion in future years, and, in the interim, would sublet the remainder to other tenants, thus recovering a part of the annual lease rental cost.

It was on the basis of those considerations that the Company's management decided to go ahead with preparation of final plans and specifications. These are expected to be ready for bids in January and, if satisfactory bids are received, construction could get underway before next summer. The architects estimate that it will take about two years to complete the construction work.

To design the proposed building, Humble engaged the services of the architectural and engineering firm of Welton Becket and Associates of Los Angeles. Assisting the Becket organization on the project are the Houston firms of Golemon & Rolfe and George Pierce & Abel Pierce, as consulting architects; and McClelland Engineers, Inc., of Houston, as soil and foundation consultants. Traffic engineer Thomas E. Willier of Houston provided a parking and traffic study which helped determine the size of the proposed garage.

Site of the main building will be the



Cafeteria on the concourse level will be large enough to seat 1200 people. As shown in this architect's sketch, sunlight will reach this area through an opening in the plaza above.

Proposed new building will make an impressive addition to Houston's skyline, as shown in this aerial picture on which the office building and garage have been superimposed in proper scale and position. View is from southwest and shows garage in foreground.

block bounded by Bell, Leeland, Travis, and Milam streets, only a few blocks from the present Humble Building in downtown Houston. The garage will occupy another full block diagonally adjacent and will be accessible from all four surrounding streets: Leeland, Pease, Milam, and Louisiana.

Preliminary plans show the office building as a 250-foot by 115-foot tower rising about 600 feet above a block-square base which will stand a few feet above sidewalk level. Framework for the building will be constructed of high-strength alloy steel, and floors will be of light-aggregate concrete on metal pans. An unusual exterior feature will be the fixed horizontal sunshades finished in aluminum and porcelain, designed so that only filtered light will strike the windows, thereby effecting substantial savings in cost of air conditioning.

Practically all service facilities, including elevators and restrooms, will be grouped in a central core, thus allowing full use for offices of the space on all sides of the building. Certain floors, located at about the 10th, 20th, and 30th floor levels, are designated as service or mechanical floors. Here will be located the air flow distribution systems for office floors above and below, the electrical distribution centers, and the elevator machinery.

The base beneath the building tower will consist of a block-size semi-underground concourse and two lower basements. On the concourse level, present plans include a cafeteria with kitchen, serving facilities, and seating capacity for 1200 people. Also planned for this level are an auditorium with 500 seats, a drug store, soda fountain, news stand, and barber shop. A tunnel passageway will lead to the parking garage.

The garage building will be six or seven stories high and will be constructed of reinforced concrete with semi-open side walls to allow for full ventilation. The ground level floor is being planned to include space for full service station facilities, and a number of retail shops. On the roof of the garage will be located all the boilers, compressors, and cooling towers for heating and air conditioning the main office building and garage.

An interesting and highly practical feature of the design of the office building is the flexibility in office space arrangement. The basic "building block" of the structure is a module or grid, 4-feet, 8-inches square. Each module will be a self-contained unit with its own electrical and telephone connections and with access to air ducts. This modular grid will permit the partitioning of offices of various sizes without disrupting floors or ceilings.

While the proposed building will be an impressive structure both in sheer size and attractiveness of design, its most important characteristic will be that of functional efficiency. Thus the Humble Company, as lessee, will be able to accomplish what it set out to do: bring all of its home office employees together under one roof, reduce costs, and improve efficiency.

Happy Motoring sign goes up on one of the newly converted Humble stations in Phoenix; building in background is Arizona State Capitol.

HUMBLE MARKETING MOVES WEST

On program at Phoenix luncheon were: left to right, Erving Jennings, who was master of ceremonies; Humble President Morgan J. Davis; Walter Caughran, Arizona district manager. Station shown below is at 3201 East Van Buren, in Phoenix.

HAPPY, the cheerful little oil drop who is the symbol of "Happy Motoring" under the Humble sign in Texas and New Mexico, was introduced to the motorists of Arizona this summer, and his welcome was as warm as the season. Already, Humble's quality products and famous service are winning friends on Arizona highways.

Humble's entry into the Arizona market was marked by the opening of 84 freshly painted and redecorated service stations under the Humble sign in July and early August. Of that total, about 70 are located in Phoenix and the surrounding Maricopa County area. These stations were formerly owned and operated by the Sahuaro Petroleum Products Company and were recently purchased by Humble along with a number of other retail outlets which will not operate under the Humble trademark.

In addition, the Company recently completed an agreement with Western Petroleum Company, with headquarters in Flagstaff, to distribute Humble products. Western Petroleum serves a number of stations along Highway 66, including outlets at Flagstaff, King-

Now operating under the Humble sign is Town Pump service station in resort community of Scottsdale, which maintains Old West atmosphere.

TWARD TO ARIZONA

man, Williams, Winslow, and Holbrook. This gives Humble its first service stations in northern Arizona.

Official announcement of Humble's plan to market in the Grand Canyon State came at a Company-sponsored luncheon for Phoenix civic and business leaders on July 15. An audience of 150 persons, including Arizona Governor Paul Fannin, Phoenix Mayor Jack Williams, and representatives of the press, heard Humble President Morgan J. Davis explain the Company's decision to move westward in marketing.

"Our Company is only one among many, large and small, to cast its lot with Arizona's future these last few years," Mr. Davis told the Phoenix group. "We intend to do our best to become a useful and continuing part of America's fastest-growing state." He went on to point out, however, that Humble was no stranger to Arizona, having made its first geologic survey 20 years ago and completed the state's first commercial oil well in 1955.

Throughout August, the Company's marketing expansion into Arizona was heralded by highway billboards and large newspaper advertisements. Proclaiming "Happy Motoring Month," this campaign introduced Arizona motorists to the Humble Company, and to the products and service they could expect under the Humble sign. Advertising programs in local newspapers, on television, radio, and outdoor billboards will continue.

In addition, Humble has secured sponsorship rights for radio broadcasts of all Arizona State and University of Arizona football games this fall, including the Arizona State-Hawaii game from Honolulu. On TV, Arizonans will also see the three live Southwest Conference games that Humble will telecast regionally. Thus the Company extends its 26-year tradition of football coverage into a third Southwestern state.

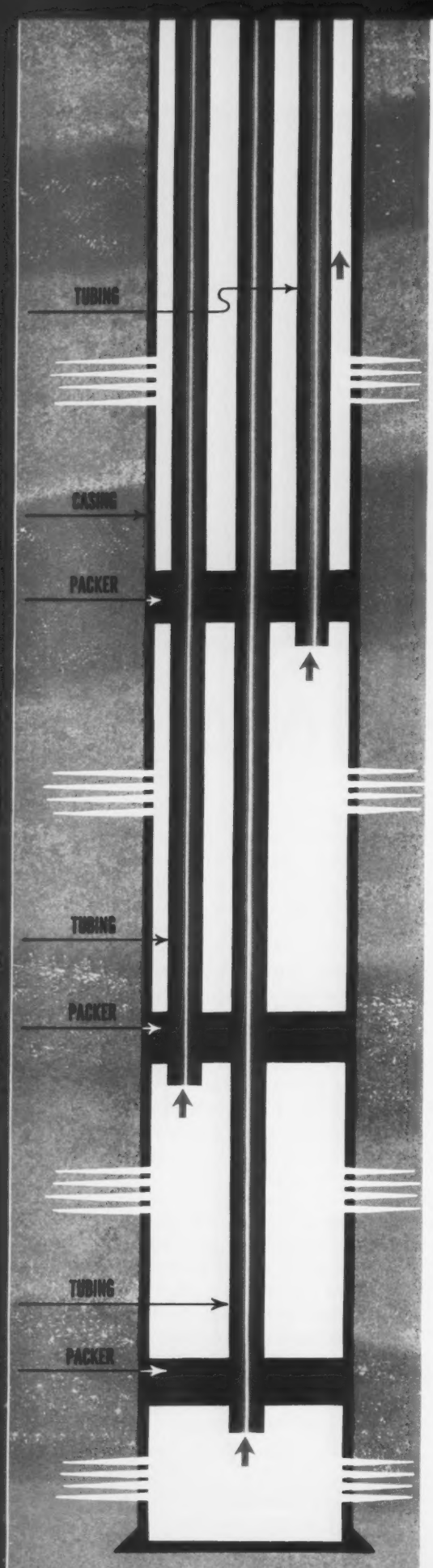
To insure that Arizona customers get the same Humble service to which Texas and New Mexico motorists are accustomed, the Company has already set into motion a vigorous, continuing training program for dealers and driveway salesmen.

Humble conducted its first Arizona service station manager's convention for 80 dealers in Phoenix on July 31. The agenda included topics ranging from lubrication and tire care to employee supervision and public relations; dealers and Company representatives participated in clinics and panel discussions. A week later, Humble began an intensive training program for driveway salesmen. This training will continue on a week-to-week basis, as it does throughout Humble's marketing operation.

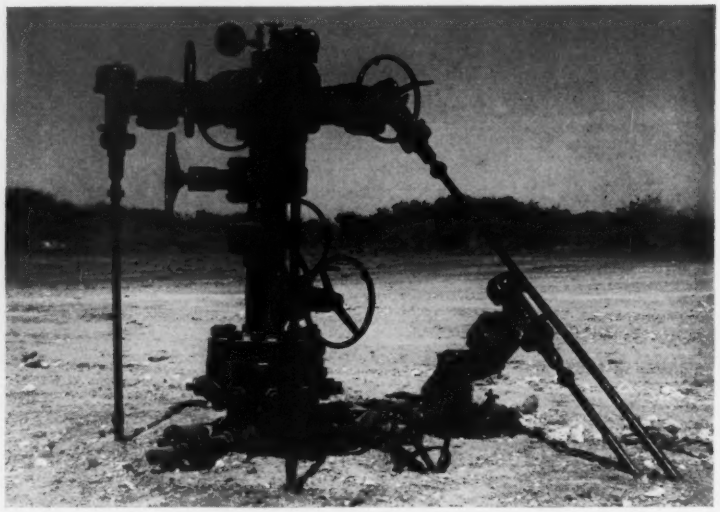
Manager of the Company's new Arizona marketing district is Walter Caughran, who formerly served as manager of the El Paso district. The Arizona district is under the Western Marketing Division, in which Roy T. Holmes is manager.

Humble's appearance on the Arizona marketing scene has been described by Russell H. Venn, manager of Marketing, as an important milestone in the Company's business life—one of obligations and opportunities.

"We know that we must offer something extra to succeed in Arizona," Mr. Venn told the Phoenix businessmen; "this we expect to do—quality products, service to motorists that is second to none, and perhaps most important, responsible corporate citizenship."



Simplified drawing of quadruple completion shows how four separate streams of oil are produced simultaneously through a single casing. The oil reservoirs are separated from each other with packers. Three streams of oil flow to the surface through separate strings of tubing, while the fourth stream flows through the annulus between tubing and casing.



Specially designed Christmas tree provides independent control of four streams of oil. From well head, oil moves through flow lines to nearby storage tanks.

North Alazan's

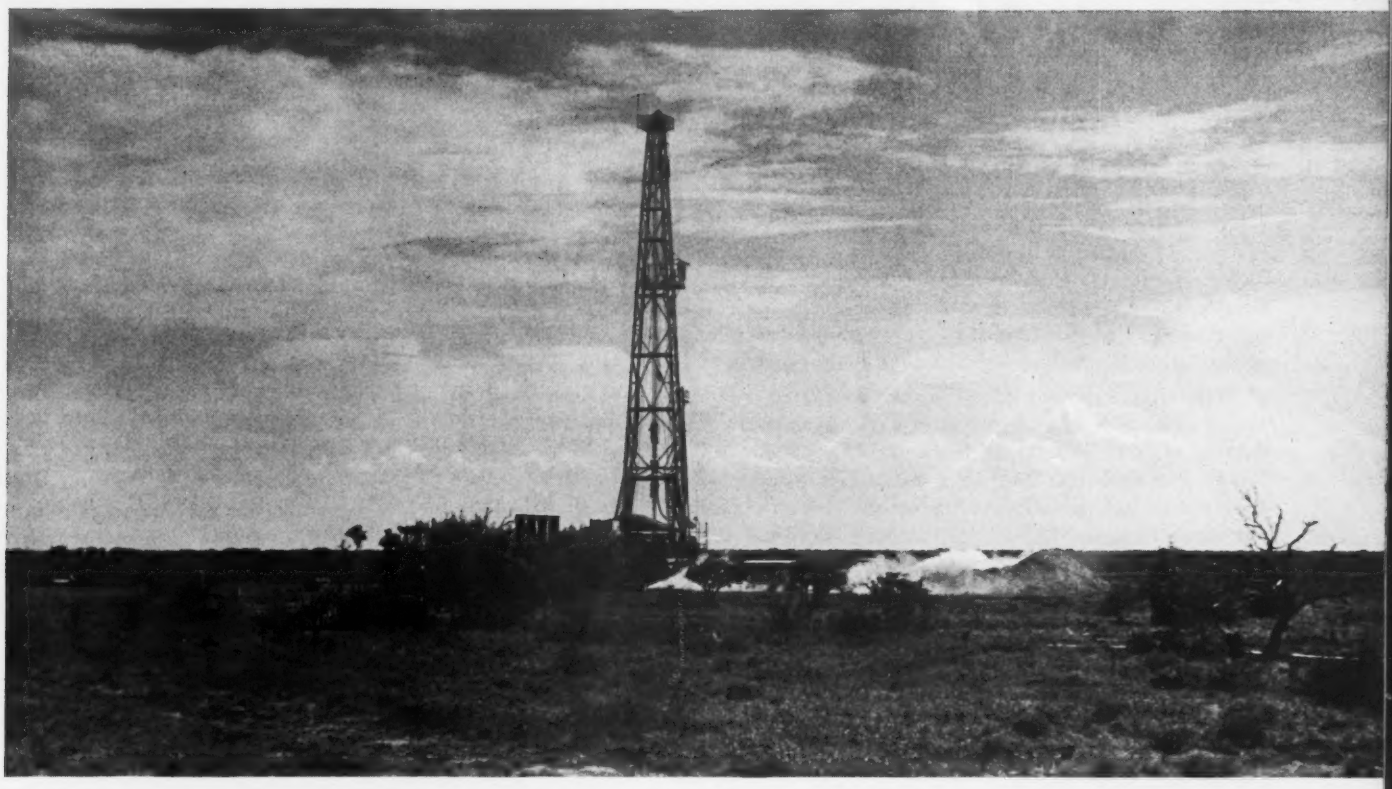
ON THE King Ranch, deep in the chaparral country of Southwest Texas, Humble recently completed the Company's first quadruple oil well.

In layman's language this simply means that the crews drilled a well and completed it in such manner that four separate streams of oil from four different producing sands can be flowed to the surface simultaneously within the single bore hole.

Thus, Humble's King Ranch-Alazan No. 11, located about 30 miles southwest of Corpus Christi, is in effect four oil wells in one. Each reservoir has a state allowable and each can be shut in or produced independently of the others.

The project began as a routine field well operation. After drilling through all four of the oil producing formations and several gas formations to a total depth of 8,960 feet, the crew set 7⅝-inch casing to the bottom of the hole and cemented it in. The casing was then perforated opposite each of the four oil reservoirs, and the zones were isolated from each other inside the casing by means of tubing and packers. Separate strings of two-inch tubing direct the flow of oil from three of the zones to the surface while oil from the fourth zone is produced through the annulus—the remaining space inside the casing not occupied by the three strings of tubing.

The highest perforation in the well is more than a mile below the surface, at 5,781 feet; the lowest is nearly half a mile deeper, at 7,891 feet. In between are the other two perforated



Lonely rig in Southwest Texas marks King Ranch-North Alazan No. 12, the seventh well drilled in North Alazan Field. Like No. 11, this well also will be quadrupally completed and thus can produce oil from four different reservoirs through a single casing.

s 4-in-1 Oil Well

Humble's first quadruple completion is a success; others are being planned

zones, one at 7,107 feet and the other at 7,227 feet.

By successfully solving the technical problems brought on by this quadruple completion, Humble has provided a cheaper method for getting more oil out of the ground. The first cost of drilling one well and completing it for oil flow from four zones is considerably less than that of drilling four single wells. Moreover, by producing all four zones at the same time, Humble can expect to recover the money it has invested in the project in a much shorter period of time than if the zones were produced one at a time.

Multiple completions—including quadruples—offer an economical solution to the problem of developing multi-zoned oil and gas fields like North Alazan. Here the need for a multiple completion program became evident when the discovery well, King Ranch-Alazan No. 6 was brought in as a producer last December. Geologists on that well noted more than 40 separate oil and gas sands. The discovery well was tested in several of these sands before being dually completed—in a gas reservoir and in an oil reservoir. This was done for a very practical reason: gas from the well was needed to power the drilling rigs which would drill the development wells.

Since then five wells have been completed: the recent quadruple, an earlier triple completion, and three single wells.

Although the North Alazan No. 11 marks the first time Humble has made a quadruple completion, duals have become routine, with the Company currently producing more than 1,000 such wells. Triples have graduated from the curiosity class, and although quadruples are an industry innovation of the past year, they too may soon pass out of the "rare" class. At this writing Humble is working on two additional quadruples—one in the Gulf of Mexico off the coast of Louisiana and a second one in the North Alazan Field.

Humble's multiple completion program has indeed moved forward at a rapid pace in recent years. And even more growth and refinement is forecast for the future. Many of the ideas considered unusual today—like the quadruple at North Alazan—may be commonplace tomorrow.

Understanding PERCENTAGE DEPLETION

By Richard J. Gonzalez

Director, Humble Oil & Refining Company

CONGRESS has recognized the importance of reasonable provisions for the depletion of minerals since the introduction of income taxes in 1913. Depletion relates to the using up of resources that occur in nature. It differs from depreciation, which relates to the wearing out of capital assets made by man. Deductions for both depletion and depreciation must be allowed in computing taxable income in order to avoid taxing the capital that generates income.

Because of the unusual risks in the search for minerals, cost and value are not closely related for mineral properties even at the beginning of operations. For most other classes of investment, by contrast, cost and initial value are usually about the same. This difference serves to explain why depletion has been based on value by Congress even though depreciation is based on cost.

By 1926, tax provisions on oil and gas had been worked out in their present form. On the basis of experience as to the relation between the value of oil in the ground and market prices at the well for oil being produced currently, Congress set depletion at 27½ per cent of gross income, but not more than 50 per cent of net income before depletion. These rates have affected investments and prices for many years and have come to be a basic element in petroleum producing operations. The real importance of percentage depletion to our economic progress and national security and the answers to the main criticisms raised against it are considered below.

The Real Importance of Percentage Depletion

Percentage depletion for petroleum has been a major factor in the economic progress and national security of the United States. Our real income per capita has been closely related to energy consumption. We enjoy more goods and more leisure than our parents a generation ago not because we work harder but because we have more mechanical servants. The petroleum energy we use amounts to 8 horsepower per capita, providing many servants to work for each of us in agriculture, industry, transportation, and residences. Admiral Rickover has expressed the significance of our supplies of inanimate energy in the following vivid terms:

> "With high energy consumption goes a higher standard of living. Thus the enormous fossil energy which we in this country control, feeds machines which make each of us master of an army of mechanical slaves. Man's muscle power is rated at 35 watts continuously, or 1/20 horsepower. Machines, therefore, furnish every American industrial worker with energy equivalent to that of 244 men, while at least 2,000 men push his automobile along the road, and his family is supplied with 33 faithful household helpers. Each locomotive engineer controls energy equivalent to that of 100,000 men. Each jet pilot of 700,000 men. Truly, the humblest American enjoys the services of more slaves than were once owned by the richest nobles and lives better than most ancient kings."

A close correlation between income and energy consumption holds true in the United States and in many countries throughout the world. (See charts.) One gallon of oil or its equivalent in other forms of energy serves to support a dollar of income. The discovery and development of one barrel of crude oil (42 gallons) provides the energy to support economic activity that will generate $42 of income. People must use more inanimate energy, particularly oil and gas, in order to improve their real income. That is why percentage depletion and other wise policies designed to encourage the development of petroleum reserves are so important to all of us.

Percentage Depletion Is Not a Tax Advantage

The critics say that percentage depletion gives petroleum producers a tax advantage and allows them to pay less than their fair share of taxes. Several points serve to answer this criticism.

1. Percentage depletion is only one of many differential tax provisions considered desirable to achieve fair treatment. Other common differentials include graduated rates for both individuals and corporations and special provisions for capital gains, mutual investment trusts, insurance companies, and cooperatives. These examples show that Congress does not accept the basic assumption of the critics that equity is achieved by taxing all income equally.

2. Petroleum production represents the sale of a capital asset on an installment basis. Therefore, income from production has a large element of capital gains and should not be taxed as ordinary income. Without percentage depletion at existing rates, many operators would be encouraged to sell out and perhaps retire from the search for oil.

3. The ratio of income taxes to reported net income, which is less for corporations in petroleum than in manufacturing, falls far short of providing a reasonable measure for judging fairness in taxation. It is the total tax burden, not income taxes alone, that affects the products of an industry. Total taxes take 65 per cent of the income before taxes in manufacturing and take a surprisingly similar figure of 67 per cent in petroleum. More taxes on petroleum production would handicap the industry and its consumers.

4. Oil production generates very large tax revenues for the U. S. Treasury and the states. A barrel of domestic production can be expected to generate direct tax revenues of 21

Adapted from an address delivered before the annual meeting of the National Oil Scouts and Landmen's Association, San Antonio, Texas, on June 12, 1959.

cents to the state and local governments for ad valorem and severance taxes and 42 cents to the Federal government for income taxes. In addition the excise taxes on products made from a barrel of crude oil will be at least $1.44, principally from gasoline taxes of about 9 cents a gallon. The final result is a tax revenue of $2.07 per barrel of crude oil produced. Both the direct and total taxes are extremely significant answers to the criticism that the industry does not pay a fair share of taxes.

5. Producers cannot avoid large tax payments over the life of their properties despite selected examples used by critics to argue that depletion allows some wealthy individuals to pay little or no income taxes. The examples cited by these critics deal with only a few years, but the real tax consequences of an investment must be measured over its life. Over the life of producing operations, which may be twenty years or more, large tax payments are inevitable. Individuals who may pay little income tax in selected years, probably because of unusually active drilling, will inevitably find that they incur large future tax liability for income taxes, capital gains taxes, or estate taxes, as well as other taxes.

Percentage Depletion Is Not Too High

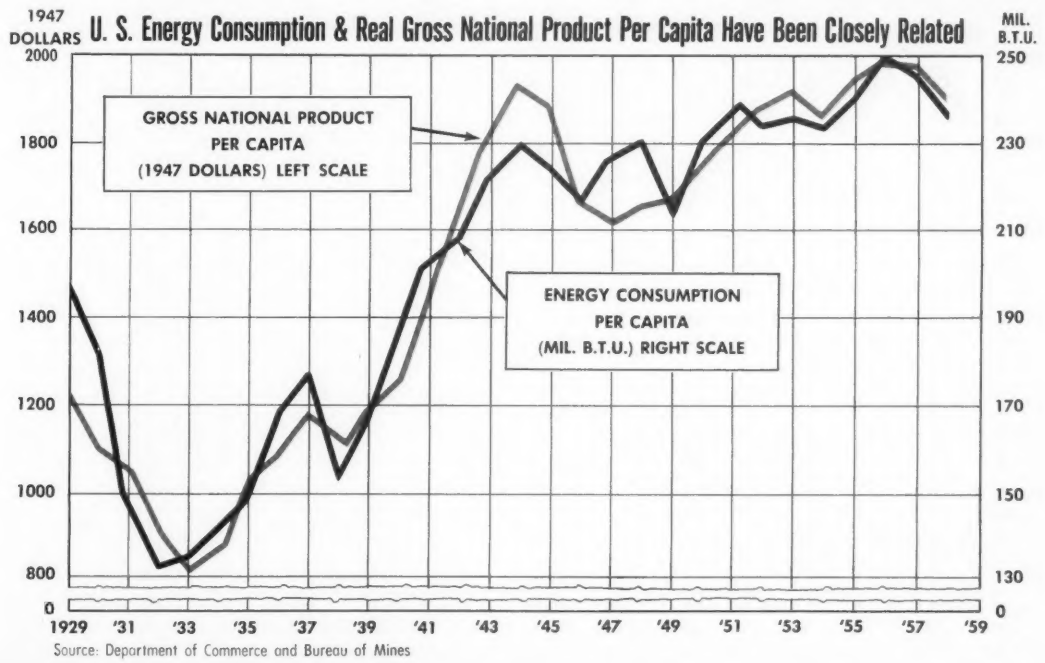
Some critics argue that percentage depletion for oil and gas is too high on the grounds that the rate exceeds that for other minerals, that tax rates have increased since depletion was adopted, that too much capital is attracted into petroleum production, or that the large companies should not be allowed the same depletion as small ones. The principal answers to these charges can be summarized as follows:

1. While depletion based on gross income ranges from 5 per cent for sand and gravel to 27½ per cent for oil and gas, the same limitation to 50 per cent of net income applies to all minerals. The varying rates take into account relative scarcity, risks, and importance for the various minerals, and the fact that it takes more investment to generate a dollar of gross revenue for oil and gas than for other minerals. If the limitation to 50 per cent of net income which now applies in many cases were allowed to apply in every case, without any limitations related to gross income, it would become apparent that the same basic principle governs depletion for all minerals.

2. Income tax rates have increased since percentage depletion was adopted in 1926, but this emphasizes the importance of not taxing capital values and capital gains as ordinary income. Oil and gas have become much more important, required capital investments are much greater, and the risks of drilling have increased. The capital value of oil in the ground has continued to be at least 27½ per cent of the current market price, so that depletion cannot be reduced without making part of the capital value depleted by production subject to ordinary income taxes.

3. The fact that proved reserves of oil and gas have no more than kept pace with demand disproves the charge of excessive investment. The restriction on foreign imports is not due to a surplus of domestic reserves but to concern that the development of new domestic reserves is retarded unduly by excessive imports. The apparent surplus of domestic producing capacity has been brought about by the lag in adjusting operations to the rapid increase in imports and to the slowing down in the long-term growth rate for petroleum products. It is not proof of excessive investment so long as the long-term outlook indicates that reserves are not increasing faster than demand.

4. Large companies take the same kind of risks as small ones and are entitled to the same rate of depletion. The large companies are usually the pioneers in expensive new areas. The high risks they take are indicated by the fact that in some operations, particularly in offshore drilling, two or more large firms frequently cooperate in joint ventures because of the possibility of great loss. The proposal to reduce depletion for firms with a gross income in excess of $1,000,000 would discriminate against shareholders of corporations in favor of individual operators. Senator Long aptly pointed out that such graduated depletion



Source: Department of Commerce and Bureau of Mines

would penalize Widow Brown who owns a few shares of stock in a large company in favor of individual operator Mr. Rich.

Answers to Other Criticisms

Charges of double deduction and subsidy, criticism of percentage depletion on foreign production, and claims that a cut in depletion would reduce the taxes paid by others and benefit the public can be answered by the following points.

1. The fallacy of the claim that deductions are allowed twice for some expenditures lies in confusion about two separate tax provisions for (a) depletion of petroleum reserves and (b) recovery of capital expenditures on the wells required to produce such reserves. Since operators must carry on *both* exploration and development, *separate* tax provisions are essential for exploration, including depletion, and for the tangible and intangible costs of development.

2. The charge of subsidy is an emotional appeal based on the erroneous assumption that the *differential* tax provisions for petroleum production constitute preferential treatment. For reasons noted previously, Congress has adopted many differentials which it believes desirable to achieve equity and to encourage activities that promote the public welfare.

3. Some critics have proposed that percentage depletion be eliminated on foreign production on the grounds that some companies producing foreign oil pay no income taxes to the United States. The principal reason for such a situation is in the credit allowed for foreign income tax payments, in order to avoid unfair double taxation, and not in percentage depletion. Discrimination against foreign production by denying percentage depletion would only handicap American companies in competing abroad with companies incorporated elsewhere and would invite foreign countries to raise their income taxes still further.

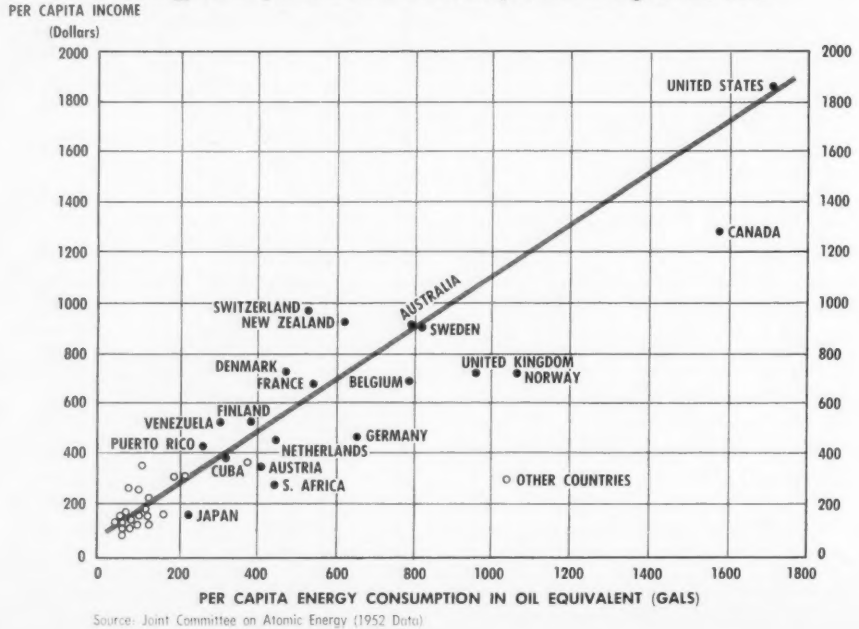
4. The critics assume that a reduction from 27½ per cent to 15 per cent of gross income for oil and gas would increase Federal income tax revenues by about $300 million and thereby lighten the burden on other taxpayers. This assumption would only be correct if the additional taxes on production did not bring about any other change. Actually, such a change in depletion would reduce the funds available for drilling and the incentive to invest both equity capital and borrowed money in drilling. The reduction in drilling might curtail the development of new reserves by some 450 to 900 million barrels annually. At $2.07 of total tax revenue per barrel, as calculated previously, the decrease in tax collections could far outweigh the estimated increase in income tax receipts.

5. The critics also claim that percentage depletion does not benefit the public but serves only to enrich producers. Actually, the major benefits of this provision are realized by consumers and the nation through ample supplies of oil and gas at reasonable prices. Such benefits as are realized by successful producers are quickly reflected in prices, under the pressure of competition. That is why we can buy more gasoline with an hour's pay now than ever before. The fact that the rate of return on the actual investment in petroleum corporations is only about the same as for all manufacturing corporations also shows that petroleum is not unduly profitable even with percentage depletion.

Conclusion

The most important reason why percentage depletion should be continued without change is that our personal welfare and national security benefit from this tax provision. It is clear that any change which makes it harder to supply us with the oil and gas servants that have made life so much better within a single generation can only serve to hurt everyone. Since oil and gas are more important to our way of life than ever before, we must continue to encourage the development of adequate new supplies by keeping in effect the sound tax provisions that have proved effective in stimulating both exploration and drilling.

Energy Consumption and Income Are Closely Related Throughout The World



Source: Joint Committee on Atomic Energy (1952 Data)

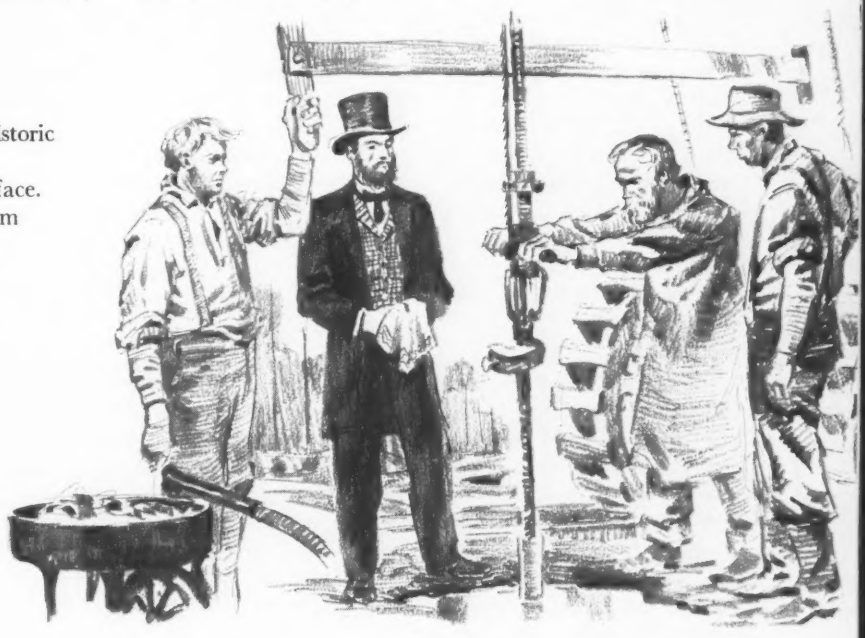
Progress Sketchbook

HIGHLIGHTS OF OIL'S FIRST HUNDRED YEARS

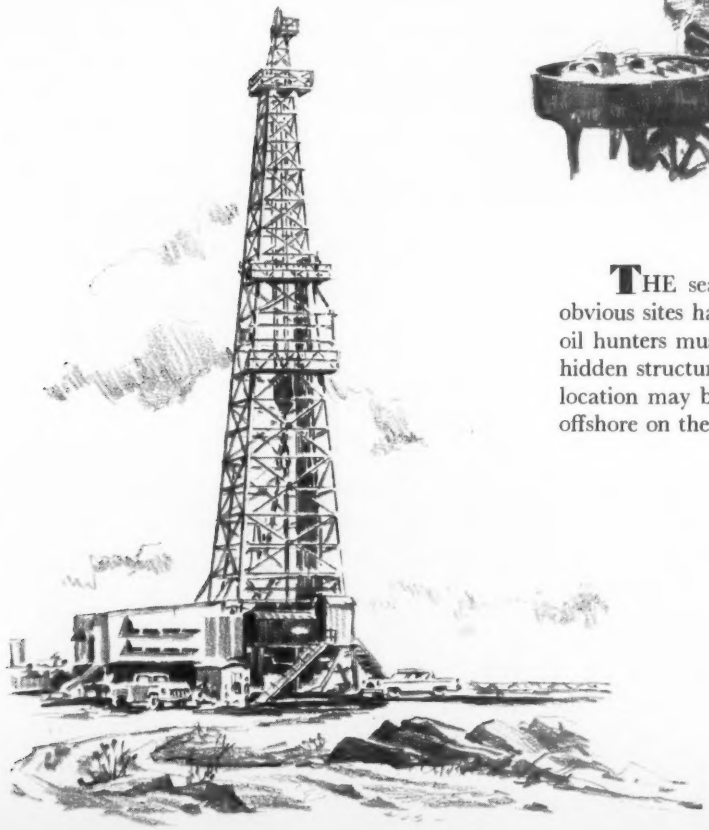
ONE hundred years ago—on August 27, 1859—a retired railroad conductor named Edwin L. Drake completed the world's first commercial oil well at Titusville, Pennsylvania. It was a shallow well and its yield was meager. Yet it ushered in a new industry and a new era.

Drake's well unleashed an abundant, low-cost source of energy that was to change the way of life and standards of living for generations of Americans. It paved the way for a period of industrial growth unparalleled in the history of man, and propelled the United States into a position of world leadership.

In order that more people should know more about this industry that plays such a vital role in their daily lives, the American Petroleum Institute is making a special effort in this Centennial year to tell the story of the oil industry—its history, its problems, and its progress. The information and sketches on the next few pages are presented as a contribution to that effort.

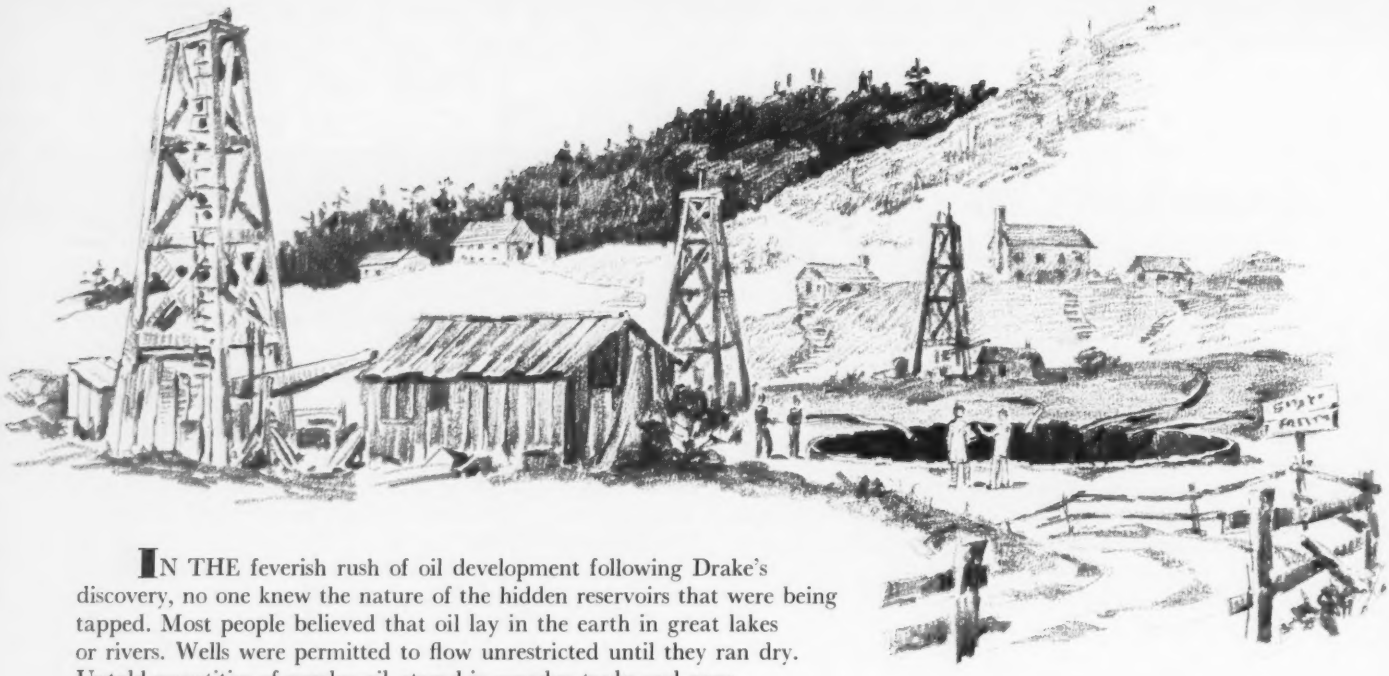


"COLONEL" Drake drilled his historic well at a site where oil was known to exist because it could be seen on the surface. His equipment consisted of a $500 steam engine, a hemp rope, a home-made bit, and a crude wooden windlass. He struck oil at a depth of 69½ feet.



THE search for oil today is a far different thing. All of the obvious sites have long since been drilled up. Modern oil hunters must rely on geologic and geophysical studies to find hidden structures where oil or gas *might* be trapped. The location may be on a mountaintop, in a desert, in a swamp, even offshore on the Continental Shelf. The prospector may have to drill four or five miles down, and the well may cost him a million dollars or more. One recent wildcat well in West Texas was drilled to a record depth of 25,340 feet, at an estimated cost of $3 million. It was a dry hole.

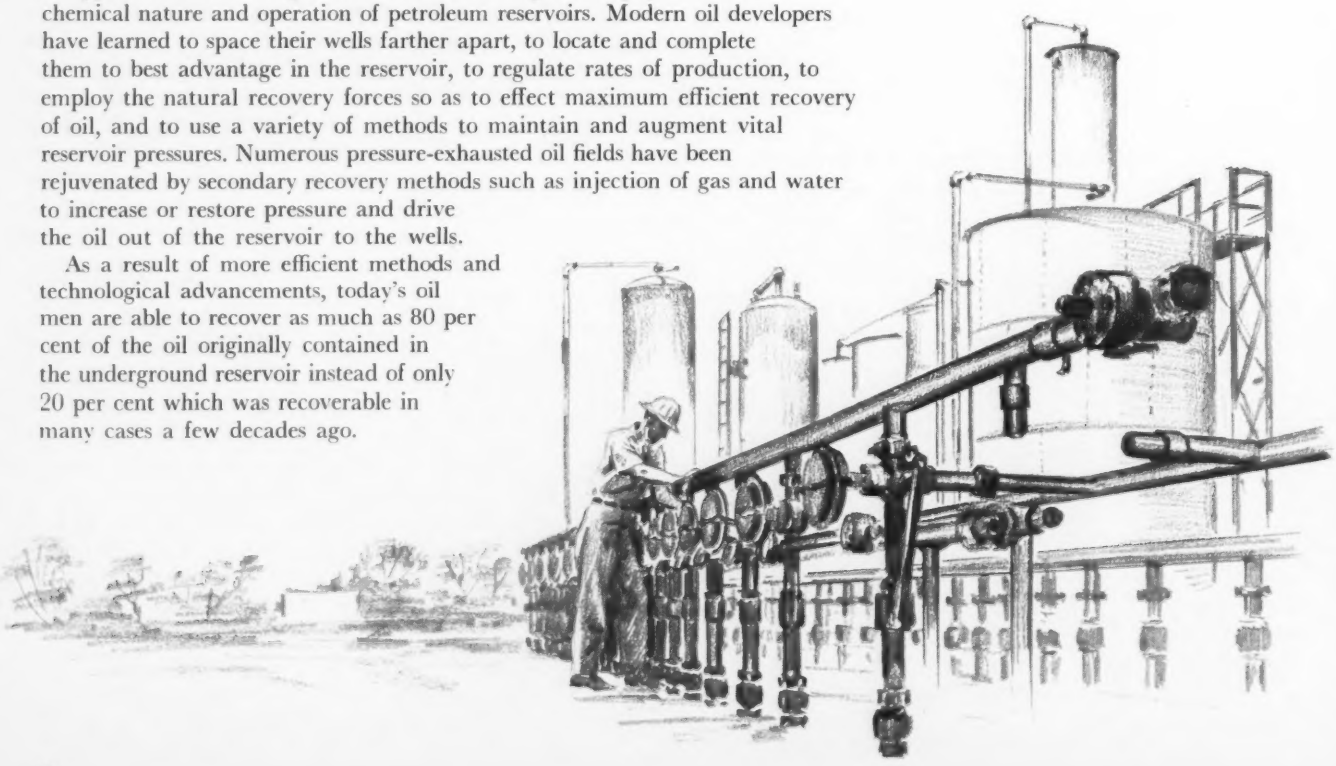
Despite rising costs, increasing technical problems, and frequent disappointments, America's oil men continue to search for—and find—new reserves of oil for the nation's progress. Like Edwin L. Drake a hundred years ago, they do it to serve a need and to make a profit.



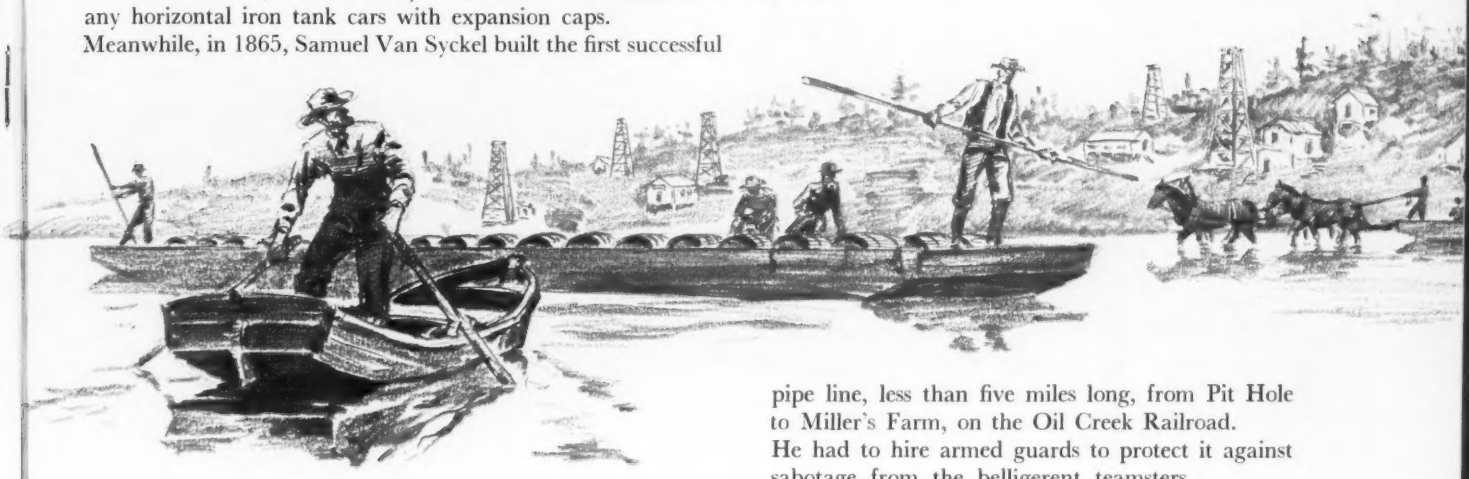
IN THE feverish rush of oil development following Drake's discovery, no one knew the nature of the hidden reservoirs that were being tapped. Most people believed that oil lay in the earth in great lakes or rivers. Wells were permitted to flow unrestricted until they ran dry. Untold quantities of surplus oil, stored in wooden tanks and open ponds, were lost to evaporation and fire. Many promising new fields, overdrilled and overproduced, died quickly and were abandoned before as much as 20 per cent of the oil in place had been recovered.

OIL FIELD development today is an orderly and scientific operation in which conservation is a prime consideration. Wasteful practices gradually disappeared as oil men gained an understanding of the physical and chemical nature and operation of petroleum reservoirs. Modern oil developers have learned to space their wells farther apart, to locate and complete them to best advantage in the reservoir, to regulate rates of production, to employ the natural recovery forces so as to effect maximum efficient recovery of oil, and to use a variety of methods to maintain and augment vital reservoir pressures. Numerous pressure-exhausted oil fields have been rejuvenated by secondary recovery methods such as injection of gas and water to increase or restore pressure and drive the oil out of the reservoir to the wells.

As a result of more efficient methods and technological advancements, today's oil men are able to recover as much as 80 per cent of the oil originally contained in the underground reservoir instead of only 20 per cent which was recoverable in many cases a few decades ago.

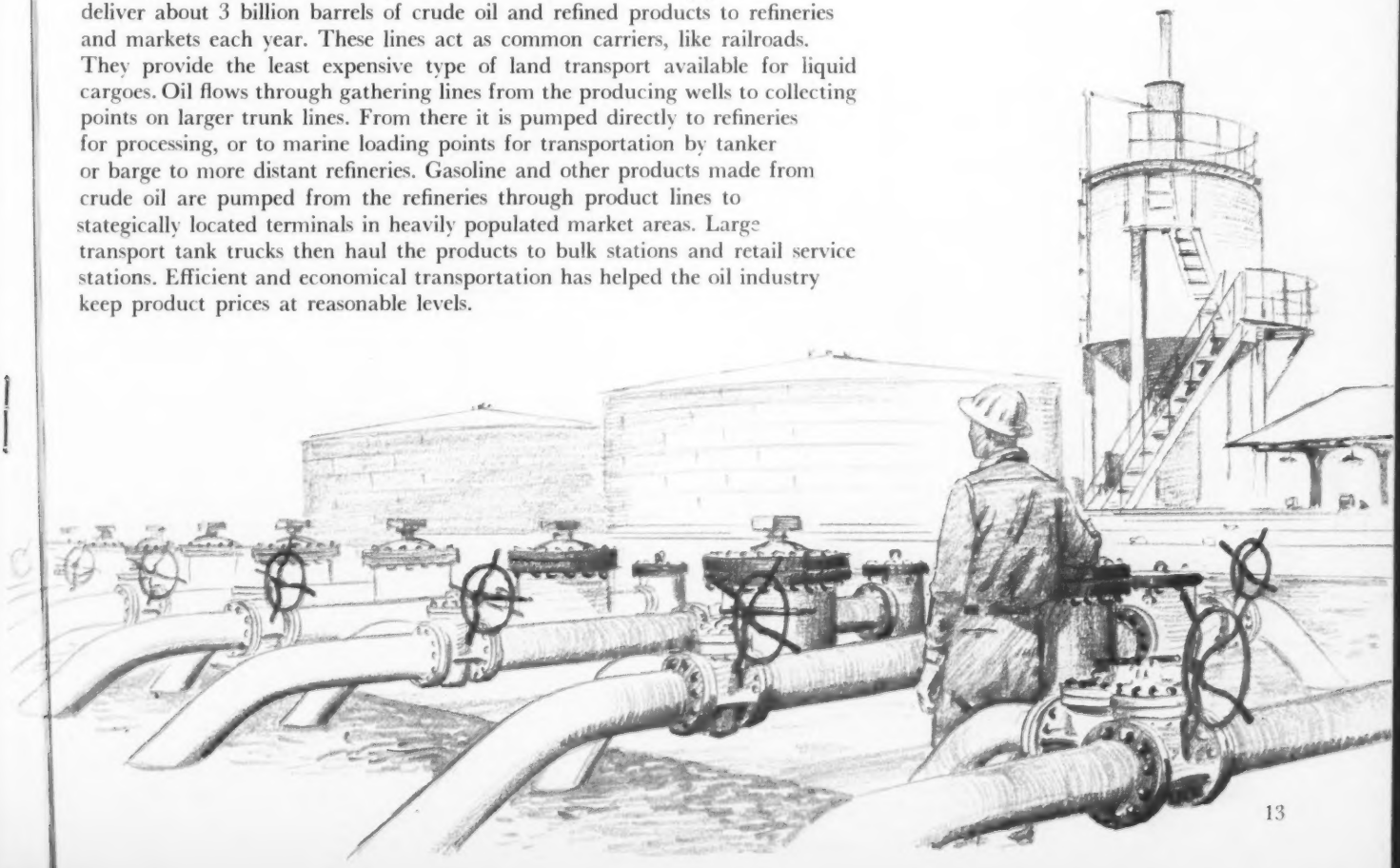


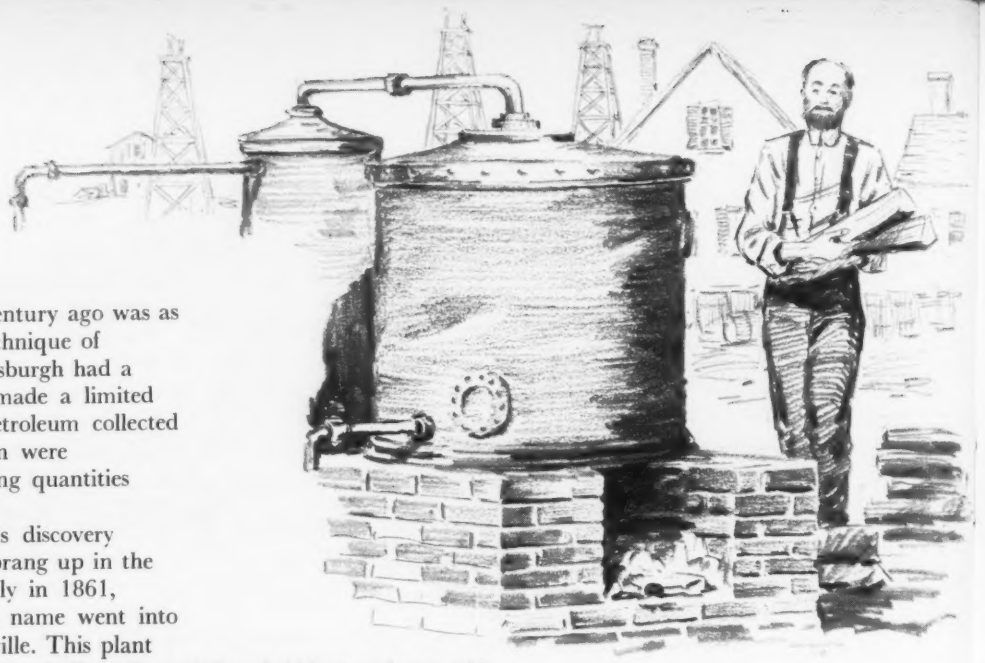
TRANSPORTATION was an immediate and urgent problem in the early Pennsylvania oil fields. Thousands of teamsters came with wagons to haul the crude oil in barrels over muddy roads and down rocky creek beds to railroad sidings. Hundreds of flat boats laden with barrels of oil floated down Oil Creek on the crests of "pond freshets," deliberate floods made by opening dams originally designed to move logs to market. Often the boats wrecked and the oil was lost. After railroads pushed their tracks into the oil towns, somebody devised the first tank car—two large wooden tanks mounted vertically on a flat car. Not until 1869 were there any horizontal iron tank cars with expansion caps.
Meanwhile, in 1865, Samuel Van Syckel built the first successful



pipe line, less than five miles long, from Pit Hole to Miller's Farm, on the Oil Creek Railroad. He had to hire armed guards to protect it against sabotage from the belligerent teamsters.

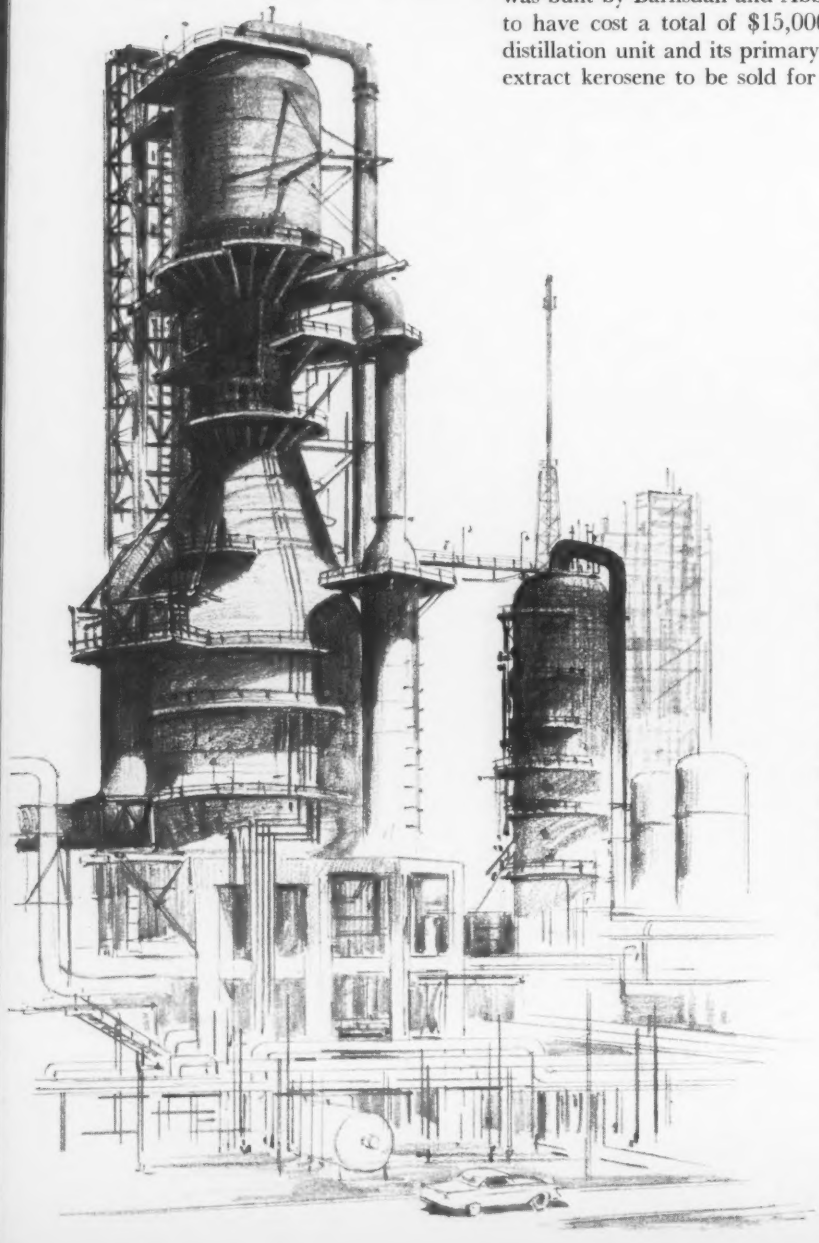
TODAY, the oil industry uses some 201,000 miles of pipelines to deliver about 3 billion barrels of crude oil and refined products to refineries and markets each year. These lines act as common carriers, like railroads. They provide the least expensive type of land transport available for liquid cargoes. Oil flows through gathering lines from the producing wells to collecting points on larger trunk lines. From there it is pumped directly to refineries for processing, or to marine loading points for transportation by tanker or barge to more distant refineries. Gasoline and other products made from crude oil are pumped from the refineries through product lines to stategically located terminals in heavily populated market areas. Large transport tank trucks then haul the products to bulk stations and retail service stations. Efficient and economical transportation has helped the oil industry keep product prices at reasonable levels.





PETROLEUM refining a century ago was as rudimentary as the newfangled technique of drilling for oil. Samuel Kier of Pittsburgh had a rude five-barrel still in which he made a limited amount of kerosene by cooking petroleum collected from brine wells. A few other men were manufacturing "coal oil" in piddling quantities from small, elementary stills.

In the months following Drake's discovery well, dozens of these simple stills sprang up in the Pennsylvania oil fields. Finally, early in 1861, the first oil refinery worthy of the name went into operation at Oil Creek, near Titusville. This plant was built by Barnsdall and Abbott and was said to have cost a total of $15,000. It was a simple distillation unit and its primary function was to extract kerosene to be sold for lamp fuel.



OIL REFINERIES today are still turning out kerosene, but it is much more likely to be used as fuel in jet engine airplanes than in lamps. Astonishing progress has been made in refining processes, too. The simple stills of early-day refineries have given way to strange and complicated plants in which the basic hydrocarbon molecules are split up and reshaped to create an almost limitless variety of new and improved products.

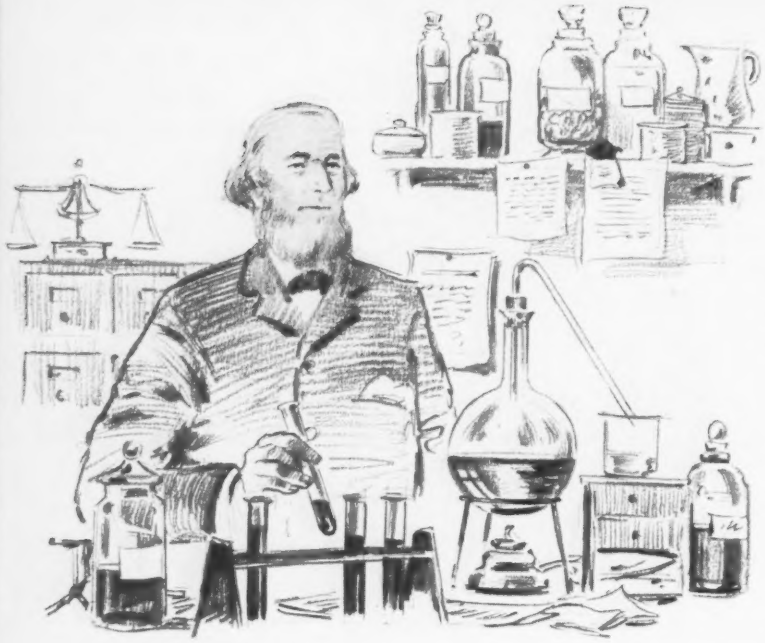
A typical modern major oil refinery is a vast and complex industrial city containing hundreds of millions of dollars worth of processing units and equipment. A single valve in a plant like this may well cost more than the entire refinery built by Barnsdall and Abbott in 1861. Yet, so far has the industry progressed that there are now 318 operating refineries, capable of processing a total of almost ten million barrels of crude oil a day. These plants represent a total investment of some $9 billion. Instead of merely extracting kerosene, they turn out more than 2300 different products in 17 categories ranging from fuels to petrochemicals. Gasoline is still at the head of this list of products, a position it has occupied for more than 40 years. But gasolines, too, have undergone continuous improvements. As a result, two gallons of today's gasoline will do as much work as three gallons did a quarter of a century ago.

THE FLOOD of kerosene flowing from Pennsylvania's pioneer "tea kettle" refineries found quick acceptance in a nation that was sorely in need of a dependable and economical lamp fuel. Marketing and distribution facilities expanded as petroleum production increased, and kerosene eventually became one of the most available commodities in the country. For half a century the kerosene drum with hand pump was a familiar sight in grocery and hardware stores. In many places, housewives could buy kerosene directly from tank wagons which peddled the fuel from door-to-door.

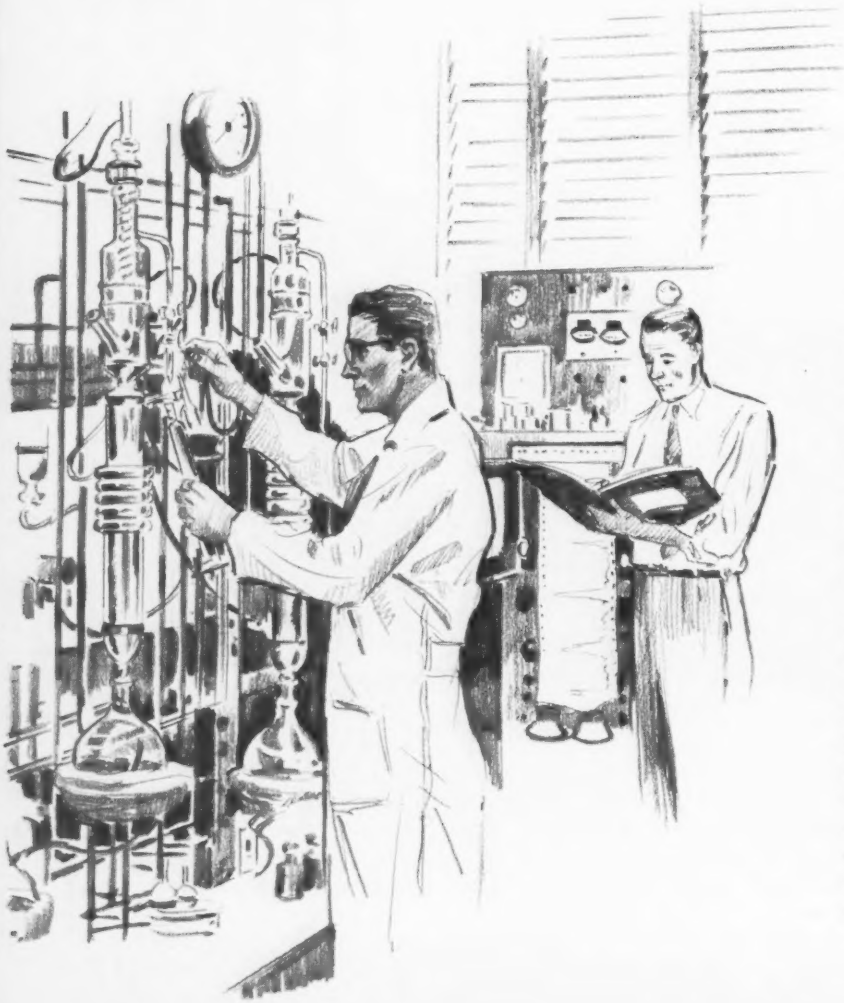
But the coming of the "horseless carriage" changed the direction of petroleum marketing. In the first decade of the 1900s, gasoline filling stations began to spring up to serve the growing numbers of automobile owners. By the end of World War I, curbside pumps were serving nearly six million motorists, and gasoline had become the major product of the oil industry.

PETROLEUM marketing has come a long way since the days when grocers pumped gasoline from drums outside their stores and transferred it in tin cans to the fuel tanks of the occasional motor cars. Today, no motorist is ever far from a modern service station where he can get vastly improved fuels, lubricants, tires, batteries, accessories, and maintenance service undreamed of in the old-time filling station. More than 180,000 service stations now dot the nation's highways and streets, and 95 per cent of them are operated by small, independent businessmen. Competition among these service stations is keen as the operators vie for the business of more than 50 million auto owners. Other members of the petroleum industry's marketing team are some 30,000 wholesalers, or "jobbers," and thousands of fuel oil dealers.

The ready availability of constantly improving petroleum products has been a major factor in the continuing economic growth and mobility of our nation.



RESEARCH has been a vital influence in the progress of the petroleum industry. It was, in fact, instrumental in the birth of the industry. The first scientific examination of crude oil on record was conducted at Dartmouth College in 1853, six years before the Drake well. But the acknowledged father of petroleum research was Benjamin Silliman, a 39-year-old chemistry professor at Yale. His optimistic report on his analysis of a crude oil sample in 1855 gave Drake and his financial bankers the confidence to drill the well at Titusville that ushered in the age of petroleum. The professor concluded his report with this prophetic statement:
"There is much ground for encouragement in the belief that your Company have in their possession a raw material from which . . . they may manufacture very valuable products."



DURING the last half of oil's first century, research scientists and engineers have proved that Professor Silliman's report was a classic of understatement. The "very valuable products" now being made from petroleum number in the thousands, and they influence the daily lives of virtually everybody in the civilized world. More than 15,000 scientists and technicians are now engaged in research and development work in the petroleum industry, and American oil companies spend some $300 million a year on this continuing effort to develop new and improved products and equipment. In addition to countless new uses for petroleum, research has made invaluable contributions to oil and gas exploration, drilling, production, transportation, and refining. Through continuing research, petroleum's second century promises to be even more vital to the American way of life than it was during the first 100 years.

Mid-Year Report Shows Substantial Gains

The following report on Company operations for the first half of 1959 was mailed to shareholders on August 10, and also was distributed to employees.

OPERATIONS in the first half of 1959 reflected substantial gains over the severely depressed volumes in the first six months of last year. Correspondingly, Humble's net income of $88,993,900 in the first half of 1959 showed an improvement of $31,811,900, or 56%, over the same period of 1958, but it was still lower than in the first half of any other year since 1955. The favorable effect of higher operating volumes was partly offset by a 5% general wage increase in January and by generally lower crude oil prices. Humble averaged about 8 cents a barrel less for its crude oil than it realized in the first half of 1958.

Earnings per share rose from 79 cents in the first half of 1958 to $1.23 in the first six months of 1959. Dividends of 70 cents per share were paid in both periods. A third-quarter dividend of 35 cents per share has been declared payable on September 10, 1959, to shareholders of record on August 21.

Net production of crude oil and natural gas liquids averaged 368,100 barrels daily, an increase of 56,200 barrels daily from the first half of last year, but otherwise lower than in the first half of any year since 1951. Prorated production in Texas, still restricted to less than half of maximum efficient rates, was based on 68 producing days through six months of this year compared with 56 a year ago. Substantially improved demand for refined products and petrochemicals resulted in near-capacity crude runs to stills which averaged 284,100 barrels daily in six months of this year compared with 199,500 barrels daily in the same period of 1958. Humble's production of Butyl rubber increased substantially over that in the first half of last year. Demand for Butyl rubber should be further stimulated by the use of this product in making automobile tires, which have received growing acceptance since their introduction early in 1959. Trunk line deliveries were up 18% from those in the first half of last year. Sales of natural gas increased 17% in volume, and in addition gas prices continued to improve.

Capital expenditures of $91,793,600 in the first six months of 1959 were slightly lower than in the same period of last year. Total exploration expenditures of $43,909,400 charged currently against income, including dry hole costs, were down $2,186,300. Dry hole costs were lower by $1,241,300 even though costs of the unsuccessful Alaska wildcat, amounting to over $4 million, were included this year. Drilling expenditures were at about the same level, and the number of wells completed by Humble was up slightly to 285. It is anticipated that Humble's drilling activities will be accelerated somewhat in the second half of 1959. Lease purchases to date in 1959 were also at about the same level as in the comparable period of 1958. It appears that new reserves of oil and gas found in the first six months of 1959 exceeded discoveries in any comparable period of recent years.

The King Ranch Gas Plant and the related 238-mile, 30-inch gas transmission line to the Houston area, mentioned in our 1958 annual report, accounted for expenditures of about $22 million in the first six months of 1959. The transmission line is nearing completion at the present time. It is anticipated that the plant, which will process about 800 million cubic feet of gas daily and recover some 28,000 barrels daily of liquid products, will be in operation about the middle of 1960.

Facilities now under construction at the Baytown Refinery for making polypropylene plastic are expected to be in operation early in 1960. This unit will have an immediate annual capacity of approximately 40,000,000 pounds and an eventual capacity of about 100,000,000 pounds a year.

Humble continued as the leading marketer of tax-paid gasoline in Texas. Marketing operations have recently been expanded into a third state, Arizona, where Humble will market through 140 stations in the Phoenix

(Continued on page 24)

	1959	1958	
	First Half[1]	First Half[1]	Year
FINANCIAL DATA			
Total Operating Revenue	$670,585,500	$578,306,500[2]	$1,203,907,400
Net Income	88,993,900	57,182,000	136,543,200
Taxes (Including Federal Income Taxes)	71,693,700	52,186,700[2]	110,864,000
Dividends Paid	50,550,900	50,288,300	100,805,100
Capital Expenditures	91,793,600	92,232,900	154,925,300
Exploration Expenditures Charged Currently Against Income:			
Total	43,909,400	46,095,700	93,250,200
Dry Holes	16,025,500	17,266,800	35,589,300
Net Income Per Share	$1.23	$ .79	$1.89
Dividends Per Share	$ .70	$ .70	$1.40
OPERATING VOLUMES			
Net Production of Crude Oil and Natural Gas Liquids—Barrels Daily	368,100	311,900	332,200
Crude Oil Refined—Barrels Daily	284,100	199,500	227,900
Trunk Line Deliveries—Barrels Daily	654,700	557,100	583,800
Net Natural Gas Sales—Million Cubic Feet Daily	1,365	1,170	1,168
WELLS DRILLED BY HUMBLE			
Producing	221	219	410
Dry	64	60	147

[1] *Unaudited.*
[2] *Adjusted for purpose of comparison to include excise taxes on products sold—net income not affected.*

Of the $44.5 million Humble paid out last year on employee benefits, approximately one-half went into the Annuity and Thrift Plan. Here is a brief discussion of this program that helps Humble employees build

SECURITY *for the Future*

"SAVE a part of your income," a sage once said, "for the man with a surplus controls circumstances, and the man without a surplus is controlled by circumstance."

Humble employees who take full advantage of the opportunities offered through the Company's Annuity and Thrift Plan are following the advice of that wise man. They are, in effect, creating the surplus that allows them to "control circumstances."

The Annuity and Thrift Plan is a two-part program designed to help Humble employees provide a financially secure future for themselves and their families. The program is strictly voluntary, of course, and the employee is free to participate or not, as he sees fit. It is interesting to note that more than 99 per cent of all eligible employees are participating in one or both parts of the program.

First, let's look at the Thrift feature of the Plan, which encourages employees in the habit of saving regularly a portion of their current earnings as a buffer against future needs. One of the most attractive aspects of this feature is that the Company also contributes to the employee's savings account.

Any full-time Humble employee is eligible to participate in the Thrift feature of the Plan if he has completed one year of service and is taking part in the Annuity program. He may arrange to have 2, 4, 6, 8, or 10 per cent of his earnings deducted from his check each pay day and placed in his account in the Thrift Fund. To this amount, the Company adds a regular contribution according to a fixed schedule of rates (see box).

The Company may also make additional contributions to employees' Thrift Fund accounts from time to time. As a matter of record, Humble has made a substantial additional contribution each year since 1936, when the Plan was inaugurated. In 1958, for example, the additional contribution for each participant amounted to $25 plus a pro rata share of some $4.5 million.

The employee decides what will be done with the money in his account. He can (1) leave it in cash, (2) invest it in Humble or Standard Oil Company (New Jersey) stock, (3) invest it in U. S. Savings bonds, (4) buy single premium, whole life, or endowment insurance, or (5) buy an additional annuity at the time of retirement. Cash left in the Fund is used by the Trustees for loans to employees or otherwise invested by the Trustees to gather interest for the participant. (A participant's credit balance, whether it be in cash or stock, can be used as collateral for his loan from the Fund.)

Although the Thrift feature of the Plan is designed to encourage long-term saving, participants are permitted to make limited withdrawals from the Fund. Generally speaking, a participant's total withdrawals can never exceed two-thirds of his own contributions, plus two-thirds of the Company's additional contributions, if any, plus two-thirds of any earnings credited to his account. The employee is required to leave in his account at all times a sum equal to the amount the Company contributed during the preceding two-year period. Two withdrawals are allowed each year provided the participant does not make the maximum withdrawal the first time.

Company contributions to an employee's regular Thrift Fund account are considered part of his current income and are taxable as such each year. However, a participant may, if he wishes, put all or part of those Company contributions into an Alternate Thrift Fund, where they will not be available for withdrawal until he leaves the Company or dies. Because he cannot touch them, they are not considered current income and are not subject to tax until they are finally turned over to him or his beneficiaries. At that time, they will be taxable at long term capital gains rates, which are lower than the rates on current income.

If he should leave the Company, a participant in the Thrift feature of the Plan would receive all of his credit balance in his regular and Alternate Thrift Fund accounts. In case of his

Thrift Fund savings have helped numerous Humble families to build their own homes.

Money saved in Thrift Fund enables many employees to send their children to college.

death, his credit balance would be paid to those persons legally entitled thereto.

The Annuity Feature

The Annuity feature of Humble's Plan is, of course, designed to help the employee provide for an income for his retirement years. Any regular employee is eligible to participate in the Annuity feature of the Plan; no specified period of service is required.

The employee contributes at the rate of 2¼ per cent of his income up to the Social Security tax base (currently $4,800 a year) plus three per cent of his earnings in excess of that base.

The Company also contributes substantially. Its portion, which varies with the age and sex of the employee, has averaged about four times the employee's contribution in recent years.

Under present arrangements, the combined contributions of the employee and the Company are used at retirement to buy an assured retirement income from an insurance carrier.

Within 18 months after they retire at normal retirement age, Humble annuitants who choose a normal form of annuity get back every dollar they put into the current annuity program. And they still have a guaranteed income for the rest of their lives. Furthermore, if an annuitant should die in less than five years after retirement, the monthly annuity payments will continue to go to his beneficiary until the five-year period is up.

An employee may choose to retire under one of the special joint and survivor options of the Plan. These options provide a smaller monthly income to the annuitant, but guarantee an income not only throughout his lifetime but also for the lifetime of his surviving joint annuitant.

Although normal retirement age is 65 (women 60), under certain circumstances employees may retire as early as age 55 (women 50). Since those who retire early are not eligible to draw Social Security old age benefits until they reach 65 (women 62), and may not be eligible for Social Security disability benefits, a special allowance was instituted to help span the financial gap. Called the Temporary Early Retirement Allowance, it supplements the annuities of qualifying early retirees until they do become eligible for the Social Security old age or disability benefits.

An Annuity feature participant who leaves the Company can do one of two things with the contributions he has made in the program. He may leave them intact and receive, when he reaches retirement age, an annuity purchased with his contributions and the Company's. Or he may withdraw his contributions, plus interest. In the latter case, if he participated for five years or more, he will still receive at retirement age an annuity purchased with the Company's contributions.

Through the years, Humble employees have been served well by the Annuity and Thrift Plan. Their savings in the Thrift Funds have grown steadily and substantially, aided in their growth by the Company's contributions, which over the life of the Plan, have amounted to approximately 95 cents for every dollar the employees have set aside from their earnings. The funds they accumulated in the Plan have helped some employees buy new homes, others to send their children through college, still others to meet various financial emergencies.

At midyear 1959, more than 2,200 Humble annuitants were receiving regular income from either the current Annuity program or one of the other retirement programs. Some 17,200 of the Company's present employees are taking part in the Annuity feature of the Plan, laying the groundwork for financial independence in their old age.

In the next issue of *The Humble Way,* we will conclude this series with a discussion of vacations, discounts on Company products, and other advantages available to Humble employees through the Company's comprehensive benefits program.

HERE'S HOW HUMBLE HELPS EMPLOYEES' THRIFT FUND SAVINGS GROW

(Percentages pertain to gross pay)

Employee Puts In	*Company Adds*	*Employee's Total Savings*
2%	1 %	3 %
4%	1½%	5½%
6%	2 %	8 %
8%	2½%	10½%
10%	3 %	13 %

(These figures refer to regular contributions only and do not include any additional contributions which may be made by the Company at the discretion of the Board of Directors.)

Employees Complete Two Refinery Units

Two new units, both built entirely by Humble employees, were completed and placed on stream recently at Baytown Refinery.

Phenol Plant No. 2, a major refining unit capable of processing 31,000 barrels of oil per day, went into operation in mid-August. It removes undesirable components from catalytic recycle streams.

The Specialty Fractionating Unit, designed for use in petrochemical test operations and for producing semi-commercial quantities of high purity chemicals, was completed in June.

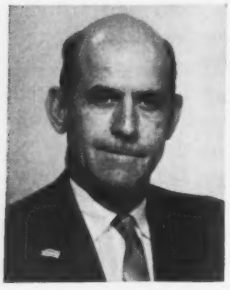
A plaque, inscribed: "Built by Humble Employees," was installed in the control room of the phenol plant during ceremonies in which Plant Manager Gordon Farned congratulated employees who took part in the construction project.

Employees not only built the unit in record time, they also built it well within the estimated cost, Mr. Farned said.

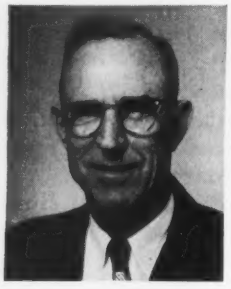
Humble mechanical forces are now at work on a third facility, a polyolefin unit, which is scheduled to be completed around the first of next year. It will produce polypropylene plastic, and will have an initial capacity of 40 million pounds a year.

At Phenol Plant No. 2, employees who took part in construction receive congratulations from Gordon L. Farned, Plant Manager.

Wolf Named PCC President



E. M. Wolf



R. L. Eckman

E. M. Wolf has been named president of Petroleum Casualty Company, the carrier of workmen's compensation for Humble.

He succeeds R. L. Eckman, who has retired. Other officers named by Petroleum Casualty include Frank L. Heard, Jr., general counsel and director, and R. S. Simpson, director.

Mr. Wolf joined Humble in November, 1929, in the Exploration Department, and moved to the Law Department in 1934.

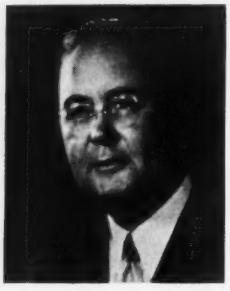
He now heads the claims, insurance, and right of way division of the Law Department, and will continue in that capacity while serving as president of Petroleum Casualty.

Mr. Eckman had completed 37 years' service with Humble when he retired. He had been an officer in Petroleum Casualty since its organization in 1925 and its president since 1958. He was also head of the automobile accident claims division of Humble's Law Department.

Mr. Heard, a graduate of the University of Texas Law School, came to work for Humble in July, 1949, after being in private practice for several years.

Mr. Simpson has been with Humble more than 33 years. He has served with Petroleum Casualty the entire time.

High Level Changes in Marketing



Frank A. Watts

Choyce Allison

Several changes in the organization of Humble's Marketing Department became effective August 1. The reassignment of duties in the department came as a result of the retirement of Frank A. Watts, manager of direct sales.

All of the current changes are of an acting nature and are a part of the Marketing Department's executive development program.

A new position of assistant manager of marketing was created. The new responsibilities were assumed by Choyce Allison, who had been serving previously as manager of retail sales.

P. W. Edge, Jr., who had been serving as technical assistant to the manager of the department, was appointed coordinator of retail sales, replacing Mr. Allison.

George Wilmoth, former Northeast Texas Division Manager, assumed the position of coordinator of direct sales. A. A. Draeger, former manager of general office sales, replaced Mr. Wilmoth.

G. H. Shipley, former manager of chemical products sales in the general sales office division, replaced Mr. Draeger. C. J. G. Leesemann, former division head of supply and coordination in the Manufacturing Department, assumed Mr. Shipley's former position.

Football Broadcast Schedule Announced

During the 1959 football season, Humble will sponsor more game broadcasts than ever before—91 games over 175 radio stations in Texas, New Mexico, and Arizona.

In addition, the Company will sponsor live telecasts of three important games and again present its video-taped Game of Week each Sunday evening.

All games played by Southwest Conference teams, including Texas Tech (which will begin a full Conference schedule in 1960) will be covered by radio, no matter where they are played. The entire schedule of Texas Western University of El Paso will again be carried over a network in extreme West Texas and southwestern New Mexico. University of New Mexico games will be heard over three stations in that state.

Two new schools, the University of Arizona and Arizona State University, will be added to the broadcast slate this season.

The live telecasts are scheduled for October 10 and 31, and November 14. Games to be televised will be announced on the Monday before they are played.

Dr. H. D. Wilde Elected to ASTM Board

Dr. Wilde

Dr. H. Dayton Wilde, coordinator of Humble's research activities, has been elected to a three-year term on the board of directors of the American Society for Testing Materials. He has served on the district council for the southwest district of ASTM for the past three years.

Dr. Wilde joined Humble in 1927. In 1929 he helped to organize and became head of the Production Research Division, and four years later he was named head of the Refining Department's Technical and Research Divisions. He was advanced to the position of manager of Research and Development for the entire Company in 1945.

Dr. Wilde was named research coordinator in 1957 and relieved of all administrative responsibilities to enable him to devote full time to integrating the activities of Humble's four research groups.

Forty Years With Humble

The following Humble employees completed 40 years of service with the Company on the anniversary dates indicated: Joyce B. Adams (July 16), division transportation foreman, Southwest Texas Division Office; Hilda F. Long (July 18), receptionist in Hall Attendants in the Houston Office; A. E. Pecore (July 19), president of Humble Pipe Line Company in the Houston Office; Ralph O. Frame (August 2), division superintendent at Southwest Texas Division Office Production; Thomas E. Reynolds (August 5), assistant mechanical foreman at Mexia for Humble Pipe Line Company; James C. Fulks (August 9), division material pusher at Gulf Coast Division Office Production; Walter C. Simmons (August 14), district superintendent at Anahuac for Humble Pipe Line Company; Harvey C. Evans (August 23), district superintendent at Tomball for Humble Pipe Line Company.

Humble Men Head Scouts', Landmen's Groups

W. J. Garrison

M. W. Hankinson

Two Humble men were recently elected to the top executive posts of their professional associations.

W. J. Garrison, assistant chief scout, was elected president of the National Oil Scouts and Landmen's Association.

M. W. Hankinson, assistant chief landman, was chosen president of the American Association of Petroleum Landmen.

Posgate Named Crude Oil Manager

James C. Posgate

James C. Posgate has been named manager of Humble's Crude Oil Department, succeeding Donald F. Haynes, who retired recently.

Mr. Posgate had been assistant manager of the department since January of this year. He came to work for Humble in 1923 in the Production Department, and held various petroleum engineering jobs before being named assistant division superintendent, Eastern Production Division, in 1955. He held that position until his promotion to assistant manager, Crude Oil Department.

Deaths

Employees: Hilliard H. Hutchinson, 56, field gauger at Refugio District, on June 30; Lee Roy Keith, 59, heavy duty pumper at Imogene, on June 29; William Lovett, 52, operator at Baytown Refinery, on July 4; Arthur M. Mixon, 50, mechanical supervisor at Katy Gas Cycling Plant, on June 20; Richard P. Waldron, 29, rotary helper at Grand Isle, Louisiana, on July 6.

Annuitants: Clower H. Beard, 75, former shop foreman in Exploration-Geophysics in Houston, on June 29; William D. Clements, 67, former helper-first at Baytown Refinery, on June 8; Troy L. Dixon, 52, former station operator at Pendell Pipe Line Station, on June 8; Clarence W. Hampton, 64, former lease pumper-gauger at Conroe, on June 15.

Bledsoe B. Hood, 70, former carpenter at Maurbro District, on June 14; Gwynn W. Jones, 63, former assistant district chief clerk in the Material Distribution Section in Houston, on July 10; Bertie T. Lide, 79, former locomotive engineer at Baytown Refinery, on May 12; Zannie B. Morgan, 64, former field gauger at Cisco District, on May 26.

William A. Nichols, 69, former roustabout at Thompsons, on June 14; Henry V. Olds, 75, former pumper at Baytown Refinery, on June 13; Eugene D. Reese, 69, former rigger foreman at Baytown Refinery, on June 22; Richard Thomas, 65, former welder special at Cisco Connection, on May 23; Frank U. Duvall, 67, former chemical man at Baytown Refinery, on June 17.

Recent Retirements

HUMBLE PIPE LINE COMPANY

Name	Location	Date of Retirement	Years of Service
Russell M. Applewhite	Southwest Texas	June 1	19
Roy Arnt	Southern Division	June 1	19
Pete Billingsley	Satsuma	August 1	28
Walter A. Blocker	Refugio	July 16	25
Glenn A. Bowden	Cisco	June 15	15
Glenn C. Brown	Tomball	August 1	34
Alva B. Carter	Viola	August 1	32
Sammie Davis	Hawkins	August 1	19
John H. Dickerson	Mexia	June 1	28
Paul Engle	Satsuma	August 1	15
James W. Fleming	Big Lake	July 1	28
Orville R. Hagler	Tomball	August 1	38
Amos T. Harris	Big Lake	July 1	34
Ike C. Heflin	Hawkins	July 13	32
Charles Hirschfeld	Webster	August 1	27
William K. Howard	Mexia	June 13	32
Joseph N. Johnson	Southern Division	August 24	32
Jack Leneave	Ballinger	August 1	32
Auston C. Lenormand	Anahuac	July 1	35
Cornelius B. Manley	Webster	August 1	33
Claude M. Massey	Southern Division	August 1	28
Winfrey H. McNeely	Corpus Christi	August 1	34
Newman R. Nichols	Satsuma	August 1	25
James C. Robinson	Alice	July 15	28
Leroy Rogers	Luling	July 1	36
James W. Saunders	Southern Division	July 1	32
Downey Simpson	Ballinger	August 1	33
Kenneth T. Smith	Webster	July 31	33
Louis W. Smoot	Satsuma	August 1	32
Leo A. Walshak	Southern Division	August 1	32
Herbert R. Weiman	Tomball	June 1	15
Lee Wheelis	Pittsburg Station	July 1	23
Burl O. Williams	Alice	July 2	37

PRODUCTION DEPARTMENT

Earl D. Anderson	Friendswood	July 1	17
Jasper C. Andrews	Friendswood	June 1	32
Alfred D. Arnold	Greta	July 1	29
Ruby F. Arnson	East Texas Div. Office	August 1	34
Myrtle P. Barkley	London	August 1	29
Turla M. Bates	Midland	July 1	22
Joe Bishop	Tomball Gas System	August 1	29
Frederick J. Bowers	Grand Isle	July 30	27
C. D. Branscom, Sr.	London	August 1	30
William R. Brewer	Athens	August 22	39
Emmitt H. Brumley	East Texas Gas Plant	August 1	31
Chester L. Carlton	Avery Island	August 1	29
King P. Childers	Avery Island	May 25	25
Rod A Coker	Imogene	July 13	29
Angus W. Compton	Athens	August 1	35
Cyrus B. Comstock	Conroe	August 1	25
Ira E. Cooke	Ganado	August 1	37
Hunt T. Corley	Liberty	August 1	29
Truman L. Craig	Greta	August 1	31
Harvey J. Cryar	Conroe	August 1	30
Clayton E. Dean	East Texas Div. Office	August 1	33
Haskel E. Dear	East Texas Gas Plants	August 1	17
Barney L. Dodson	Beaumont	August 1	38
Britt Dozier	London	August 1	31
John W. Duke	Hobbs, New Mexico	June 22	31
Hubert V. Farr	Hawkins	July 16	33
Burl B. Festervan	London	August 1	35
Irving N. Fohn	London	August 1	36
Leon O. Ford	London	August 1	34
James O. Fuqua	Paradis	June 30	25
Benjamin F. Fuller	Imogene	July 1	35
James F. Gainey	London	August 1	35
Riley Gibson	Imogene	June 8	29
Robert E. Graham	Imogene	August 1	29
Joe E. Green	London	August 1	33
William B. Gregory	Talco	August 1	24
Ralph L. Guinn	London	August 1	30
Edward C. Hall	Beaumont	August 1	34
Sanford F. Hammons	London	August 1	26
Charlie H. Heintschel	Tomball	August 1	38
William C. Henderson	London	June 1	33
Joe H. Hobbs	Laurel, Mississippi	July 15	27
Tom B. Hodges	London	August 1	26
Dewitt W. Honeycutt	Athens	July 1	36
John H. Hutson	Conroe	June 22	28
Carl J. Kedziora	McCamey	August 1	36
J. C. Krumrey	Friendswood	August 1	30
Charles R. Lambright	Andrews	June 15	25
William Langton	Laurel, Mississippi	August 1	26
Joseph A. Lea	London	August 1	37
Willis R. Mathyer	Beaumont	August 1	34
Isaac C. Maupin	London	July 1	31
Raymond Mayes	McCamey	June 1	30
Norman A. McDonald	London	August 1	27
Benton L. Palmer	Tomball	July 1	29
Buford L. Palmer	Bayou Sale	August 1	31
John A. Parker	London	August 1	27
Benjamin R. Parrish	Friendswood	August 1	33
Ely D. Platt	London	August 1	30
Robert L. Polan	Tomball	July 1	25
Ernest G. Purswell	Friendswood	June 1	25
Corbett F. Rasbeary	Bayou Sale	August 1	33
Dewey F. Reavis	Beaumont	August 29	25
Erbie A. Rodgers	Talco	August 1	32
Jesse P. Secrest	Paradis	July 1	22
Jeff Simpson, Jr.	London	August 1	32
Nathan P. Skipper	Ganado	August 1	30
Emory B. Smith	Conroe	August 1	37
Jewel J. Smith	Talco	June 1	30
Jess F. Snyder	London	August 1	30
Alvah L. Spencer	Kelsey	August 1	35
William L. Stateham	Goose Creek	July 1	28
Robert L. Stewart	London	August 1	30
William Stubblefield	London	August 1	32
Jack F. Swope	Talco	August 1	26
Enoch A. Terry	Stratton	August 1	32
Henry Thomas	Tyler	August 1	28
Howard F. Thompson	Ganado	August 1	35
Cleatis Toler	London	August 1	33
Elmer E. Tompkins	Gladewater	August 1	33
Bert S. Wadlington	Imogene	June 29	36
Mildred K. Whitaker	London	July 1	27
Olie M. White	Andrews	July 16	26
August Wilke	Conroe	August 1	34
Cecil E. Woodard	London	August 1	32

BAYTOWN REFINERY

Joseph F. Alcorn	Storehouse	July 1	33
Walter O. Alfred	Boilermaker Dept.	July 1	16
Edwin E. Atteberry	Pumping & Gauging	June 1	29
Nathan D. Ausley	Plant Protection	July 1	24
Rexford L. Ball	Labor Department	July 8	24
Walter S. Ball	Maint. & Constr.	July 1	15
Bruce W. Barfield	Blending	July 1	33
Augustus E. Beasley	Storehouse	June 1	30
William F. Bishop	Labor Department	June 1	21
Curtis Blackford	Maint. & Constr.	August 1	15
Knute A. Blomstrom	Labor Department	June 1	36
Walter L. Blansett	Oil Movements	August 1	38
R. C. Brown	Service Laboratories	June 1	33
Florence F. Burnette	Service Laboratories	August 1	31
Carl W. Carlson	FCCU No. 1	August 1	17
Mace B. Casey	Maint. & Constr.	August 1	15
Sam Cashat	Packaging & Lube Blending	August 1	23
Collis A. Chambers	Machine Department	July 1	33
Elton L. Chesney	Utilities	August 1	15
Leona H. Clark	Accounting	August 1	16
James A. Cromeans	Labor Department	June 1	16
James F. Cryer	Maint. & Constr.	July 1	15
Carl L. Daniel	Maint. & Constr.	June 1	15
Raymond C. Dowdy	Labor Department	August 1	16
Dave Eagleton	Labor Department	August 1	22

B. O. Elliott	Boilermaker Dept.	August 1	24
Rennie A. Ellis, Sr.	Mechanical General	August 1	33
Albert L. Ewing	Boilermaker Dept.	July 1	16
Harvey W. Flynt	Treating Department	July 1	33
Dave Ford	Labor Department	June 1	15
Mack Ford	Docks	August 1	31
William H. Galing	Pumping & Gauging	July 1	21
Fidel Garcia	Labor Department	August 1	23
Walter W. Gardner	Mechanical General	August 1	35
Lloyd L. Gibson	Machine Department	August 1	15
Joseph Gilliam	Labor Department	August 1	15
Jimmie Golden	Pipe Department	August 1	32
Antonio Gonzales	Labor Department	May 16	23
Henry F. Goss	Operations Advisor	August 1	36
Tomie W. Gunn	Electric Department	August 1	34
Douglas M. Haas	Manufacturing-Operating	August 1	30
Jesse B. Hance	Docks	August 1	29
Harvey O. Hart	Pipe Department	August 1	24
Paul B. Hart	Storehouse	August 1	21
James M. Harvey	Pumping & Gauging	August 1	32
Walter J. Heaton	Labor Department	June 1	16
Henry H. Hendrix	Cracking & Polymerization	August 1	33
Santos Hinojosa	Labor Department	July 1	16
James E. Hoffpauir	Insulators	August 1	33
Joseph T. Hopper	Cracking & Polymerization	August 1	34
William A. Hutchins	Pipe Department	July 1	24
Edward J. Jasek	Paint Department	August 1	16
John F. Jennings	Service Laboratories	July 1	35
Floyd M. Johnson	Pumping & Gauging	August 1	16
Sidney C. Jones	Maint. & Constr.	June 1	15
Clarence Edward Kirkman	Pumping & Gauging	August 1	23
Ruble L. Lamb	Labor Department	August 1	28
Erich F. Lehde	Light Oil Treaters	July 1	31
Francis W. Leslie	Docks	July 1	15
Abram Lewis	Labor Department	July 1	20
Sam Lundy	Tube Cleaners	August 1	33
Walter Matthews	Labor Department	August 1	16
Eliga M. Matysiak	Labor Department	August 1	34
Arlie K. McKay	Pipe Department	August 1	17
Sidney L. McLain	Docks	May 13	16
Ruby M. Meleen	Administrative	August 1	24
Porter Mendenhall	Paint Department	August 1	15
Johannes T. Mgebroff	Process Admin.	August 1	33
Rosare J. Moran	Maint. & Constr.	June 1	33
Alfred E. Mouton	Machine Department	June 1	24
John E. Norton	Packaging & Lube Blending	July 1	29
Karl Opryshek	Process Supt.	August 1	37
Silas H. Page	Pumping & Gauging	August 1	16
Charley G. Parsley	Process	August 12	30
Sterling B. Paul	Maint. & Constr.	August 1	18
Tristam T. Peck	Tube Cleaners	August 1	33
Giles T. Praetorius	Docks	July 1	30
Elbert Prichett	Process	August 1	23
Oscar E. Repp	Storehouse	August 1	31
Armando M. Rios	Lube Hydrofining	August 1	24
Nasario Rios	Labor Department	June 1	15
Anastacio Rodriguez	Labor Department	August 1	33
Robert M. Scott	Storehouse	August 1	31
Jerry S. Sloane	Machine Department	August 1	29
Stanley Smith	Pipe Department	July 1	33
Thurman Smith	Docks	June 1	30
Charlie K. Spencer	Carpenter Dept.	July 1	23
Cairy Stewart	Butyl RHB	August 1	32
Hugh M. Stewart	Technical	August 1	29
Albert L. Tauch	Paint Department	June 1	24
George D. Taylor	Paint Department	July 1	24
Edmond J. Teal	Lead Burners	June 1	36
Harvey C. Thaxton	Technical General	July 1	38
Arthur C. Theeck	Pumping & Gauging	August 1	15
Oscar L. Triplett	Maint. & Constr.	August 1	33
Doyle L. Trollinger	Solvents	August 1	31
Landry Vanright	Labor Department	June 1	15
Stanley Voytek	Utilities	August 1	30
Jim T. Webb	Maint. & Constr.	July 1	34
Ramsey W. Webb	Solvents	July 1	31
William T. Welsh	Process Admin.	August 1	31
Thomas B. West	Operations Services-Gen.	June 1	15
William M. Westmoreland	Paint Department	July 1	15
Arthur L. Wiley	Butyl-FHB	August 1	22
Emmett G. White	Process	July 1	24
Charley L. Williams	Maint. & Constr.	July 1	37
James L. Williams	FCCU No. 1	August 1	31
Thomas R. Wilson	Pumping & Gauging	August 1	16
Alfred C. Wooley	Boilermaker Dept.	July 1	30
Halie W. Wright	Labor Department	August 1	18
Robert M. Zumwalt	Distillation Dept.	July 1	15

EXPLORATION DEPARTMENT

Louis J. Adams	Corpus Christi	August 1	39
Hiram C. Boyd	Lucedale, Mississippi	June 21	31
Thornton C. Cash	Tyler	August 1	37
Maurice M. McCaleb	Corpus Christi	July 28	34

MARKETING DEPARTMENT

William Bohne	Southwest Texas Div.	August 1	37
Clyde C. Dye	Southwest Texas Div.	August 1	26
Arlie C. Hubbard	Southwest Texas Div.	July 1	31
Hal Parks	Corpus Christi	August 1	27
Paul M. Redfern	Waco Bulk Station	August 1	28
Walter C. Specht	Brenham Bulk Station	July 7	25
Alvin Zunker	Southwest Texas Div.	July 1	28

THE HOUSTON OFFICE

Elvira W. Black	Crude Oil Accounting	August 1	25
Ludwig W. Blau	Geophysics Research	August 9	30
Louis F. Bonner	Production Research	June 1	26
Robert E. Bridges	Production Dept.	July 1	35
Angelina J. Burleson	Hall Attendants	July 8	24
Paul C. Carlin	Special Products Pl.	August 1	34
Lawrence S. Chamberlin	PL-Administrative	June 26	39
Gene Christie	Annuities and Benefits Div.	August 1	21
Walsh E. Deason	Marketing Accounting	August 1	38
Ernest J. Domm	PL-Southern Division	August 1	32
Roy J. Downey	Production Operating	August 1	34
Robert L. Eckman	Petroleum Casualty Company	August 1	37
Jack D. Ehman	Gulf Coast Division	August 1	29
Annie R. Elliott	Claim & Right-of-Way	August 1	22
Sarah W. Geiger	Marketing Accounting	August 1	35
Rosalie B. Gisler	Production & Exploration Acct.	June 10	21
Frank A. Harrell	Special Officers	August 1	22
Julius E. Harwell	Special Officers	August 1	17
Donald F. Haynes	Crude Oil Dept.	August 1	40
Scott L. Hollyfield	Exploration-Geologic	August 1	39
Herbert H. Hosea	PL-Administrative	August 1	34
Merl H. P. Howell	Treasury	August 1	31
Sophia E. Kilgore	Administrative Accounting	August 24	39
Otto F. Lammers	PL-Administrative	July 6	32
Bayard C. Low	Lease Purchase & Sales	August 1	38
John A. Mahon	Crude Oil Acct.	August 1	39
Ursula L. Maurer	Production-Policy & Organ.	August 1	25
Alphonse E. Meleton	Production Research	June 25	39
Lucile B. McMillan	Manufacturing-Cost & Eval.	August 1	34
Velma P. Muhlhausen	Tax Division	August 1	30
Willis W. Perkins	Special Officers	August 1	17
John H. Rice	PL-Administrative	August 1	30
William T. Robertson	Civil Engineering	August 1	31
Jacob Rosenthal	PL-Southern Division	August 1	33
Stanley I. Russell	Marketing Acct.	July 1	28
Caroline W. Smith	Hall Attendants	August 1	37
Otway Taylor	Claim & Rt.-of-Way	August 1	26
Betty H. Turner	Annuities and Benefits Div.	August 1	21
Ernst F. Von Voss	Manufacturing	July 6	35
Frances B. Ware	Crude Oil Acct.	August 1	17
Frank A. Watts	Marketing-Direct Sales	August 1	39
Dorothy K. Whitson	Exploration-Geophysics	August 1	29
Grace S. Wilcox	Hall Attendants	August 1	21
Oliver E. Young	Civil Engineering	July 25	37

By the way

● While preparing the cover for this issue, we fell to wondering how many Texas motorists really know what they should do when they come upon a school bus stopped on a public highway. As an experiment, one of our staff members queried a number of his friends and acquaintenances on the subject.

"They all knew that they are supposed to stop," he reported, "but they sort of bogged down on further details. Most of them didn't know what they could do if a bus remained stopped for an unusually long time, for example, or what they should do if they came to a bus stopped on the opposite side of a divided highway."

Just in case those questions would stump you, too, here is an extract from the Texas Motor Vehicle Law, as passed along to us by the Texas Safety Association, Inc.:

"The driver of a vehicle upon a highway outside of the limits of any incorporated city or town upon meeting or overtaking from either direction any school bus which has stopped on the highway for the purpose of receiving or discharging any school children shall stop the vehicle immediately before passing the school bus, but may then proceed past such school bus at a speed which is prudent, not exceeding ten miles per hour, and with due caution for the safety of such children."

However, "The driver of a vehicle upon a highway with separate roadways need not stop upon meeting or passing a school bus which is on a different roadway or when upon a controlled-access highway and the school bus is stopped in a loading zone which is a part of or adjacent to such highway and where pedestrians are not permitted to cross the roadway."

● The realistic architectural model of the proposed new Humble home office building (see inside front cover; also page 2) has traveled more than 4,600 miles this year between Los Angeles, where it was built, and Houston, where it was used in the architects' presentation.

The first trip proved uneventful. Carefully crated, the delicate three-foot tall model was transported across country in a panel truck driven by two members of the staff of Welton Becket & Associates. After the presentation in Houston, certain alterations were called for, and the model was shipped back to Los Angeles on a commercial carrier. That trip was not so uneventful. Somewhere in transit the crate was dropped, and the model suffered severe damage.

Needless to say, when the model makers finished their repairs and alterations, and the time arrived for the trip back to Houston, the panel truck was called back into service. This time the model reached its destination safely, and it now stands, protected by a clear plastic case, in the Ninth Floor Board Room in the Humble Building, where it has been viewed and admired by many employees and visitors, including the Mayor of Houston and members of the City Council.

MID-YEAR REPORT—
Continued from page 17

area and in the northern section along U.S. Highway 66. Marketing operations in New Mexico, which started in 1955, continued to expand in the first half of 1959.

Operating volumes and net income in the last half of 1959 probably will be less favorable than in the first six months. Crude oil producing levels are currently below the average for the first half of 1959. While considerable uncertainty still exists as to the effect of import controls on domestic production, Texas wells probably will be allowed to produce less crude oil in the last half of 1959 than in the first half. Concerted cost reduction efforts are being continued by the Company, and investments are being screened very carefully. Even under conservative estimates as to last-half production levels, it appears that net income for 1959 should improve over the $136,543,200 earned in 1958.

The Humble Way

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Published every other month for employees and shareholders

HUMBLE OIL & REFINING COMPANY

P. O. Box 2180, Houston 1, Texas

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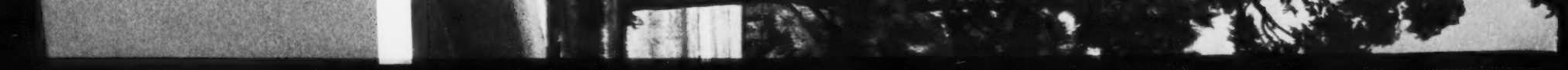
More than 800 valves like these went into Humble's newest cat cracker at Baytown Refinery. By way of contrast, the nation's first commercial refinery, in 1861, cost less than two of the large valves seen here.

School Bus Yellow Means Caution

As September rolls around once again, thousands of familiar yellow school buses will reappear to shuttle up and down the nation's streets and highways. In Texas, alone, this year, these buses will transport about 580,000 elementary and secondary school children some 80 million miles to and from their classrooms.

Every motorist shares the responsibility of helping these children reach their destinations safely. Last year, unfortunately, there were 206 school bus accidents in Texas — an average of more than one each school day. Most of those accidents involved other vehicles, and were caused by motorists failing to exercise proper caution.

Let's do better this year. Be alert when you drive. Stop when a school bus stops — whether you are driving behind it or approaching from the other direction. Remember always when you drive to "take it slow where children go."